

# J-POWER GROUP INTEGRATED REPORT 2022



## ■ Editorial Policy

The J-POWER Group began releasing integrated reports in fiscal 2019. Through these reports, we work to present financial and non-financial information in a systematic and highly-readable format aimed at explaining how we will achieve the value we create to society and enhance our corporate value.

## ■ Reporting Period

April 1, 2021 to March 31, 2022

(also contains reporting on important matters after this period)

## ■ Reporting Cycle

One year

## ■ Publication of Previous Report

August 31, 2021

## ■ Guidelines Referenced

- GRI Standards (Global Reporting Initiative)
- International Integrated Reporting Framework (ISSB)
- SASB Standards (ISSB)
- Guidance for Collaborative Value Creation (Ministry of Economy, Trade and Industry)

\* IIRC and SASB were merged into the ISSB of the IFRS Foundation in June 2022.

## ■ Forward-Looking Statements

Statements in this integrated report, other than those of historical fact, are forward-looking statements about the future performance of the J-POWER Group that are based on management's assumptions and beliefs in light of information currently available, and involve both known and unknown risks and other uncertainties. Actual events and results may differ materially from those anticipated in these statements.

## ■ Presentation of Monetary Amounts and Other Figures

For monetary amounts and electric power sales volumes, figures less than the indicated unit are rounded down. For other amounts, figures less than the indicated unit are rounded to the nearest unit unless otherwise mentioned.

## Contents

### J-POWER Group's Social Value Creation

- 2 J-POWER Group's Social Value Creation
- 3 J-POWER Group's History
- 4 Value Creation Process
- 5 Risks and Opportunities
- 6 Material Issues
- 7 Material Issues and Specific Initiatives

### J-POWER Group's Strategies and Businesses

- 8 Message from the President
- 14 J-POWER "BLUE MISSION 2050"
- 28 Medium-Term Management Plan
- 33 Financial and Non-Financial Highlights
- 35 J-POWER Group Businesses

### Disclosure Based on TCFD Recommendations

- 42 Climate Change Scenario Analysis

### J-POWER Group's Sustainability Strategies

- 51 J-POWER Group's Sustainability Initiatives
- 53 J-POWER Group and the Environment
- 56 Environmental Initiatives
- 57 Respect for People
- 64 Occupational Health and Safety
- 66 Local Communities Engagement
- 69 Corporate Governance
- 74 Messages from Independent Directors
- 75 Emergency Management
- 76 Compliance & Risk Management
- 78 Directors, Audit & Supervisory Board Members, and Executive Officers

### Data Section

- 81 6-Year Financial Data
- 82 Consolidated Financial Statements
- 84 ESG Data
- 88 Major Group Companies
- 90 J-POWER Group Facilities
- 95 Attestation of Validity
- 96 Corporate Profile/Stock Information

## ■ Relationship with other reports



### Integrated Report/Website

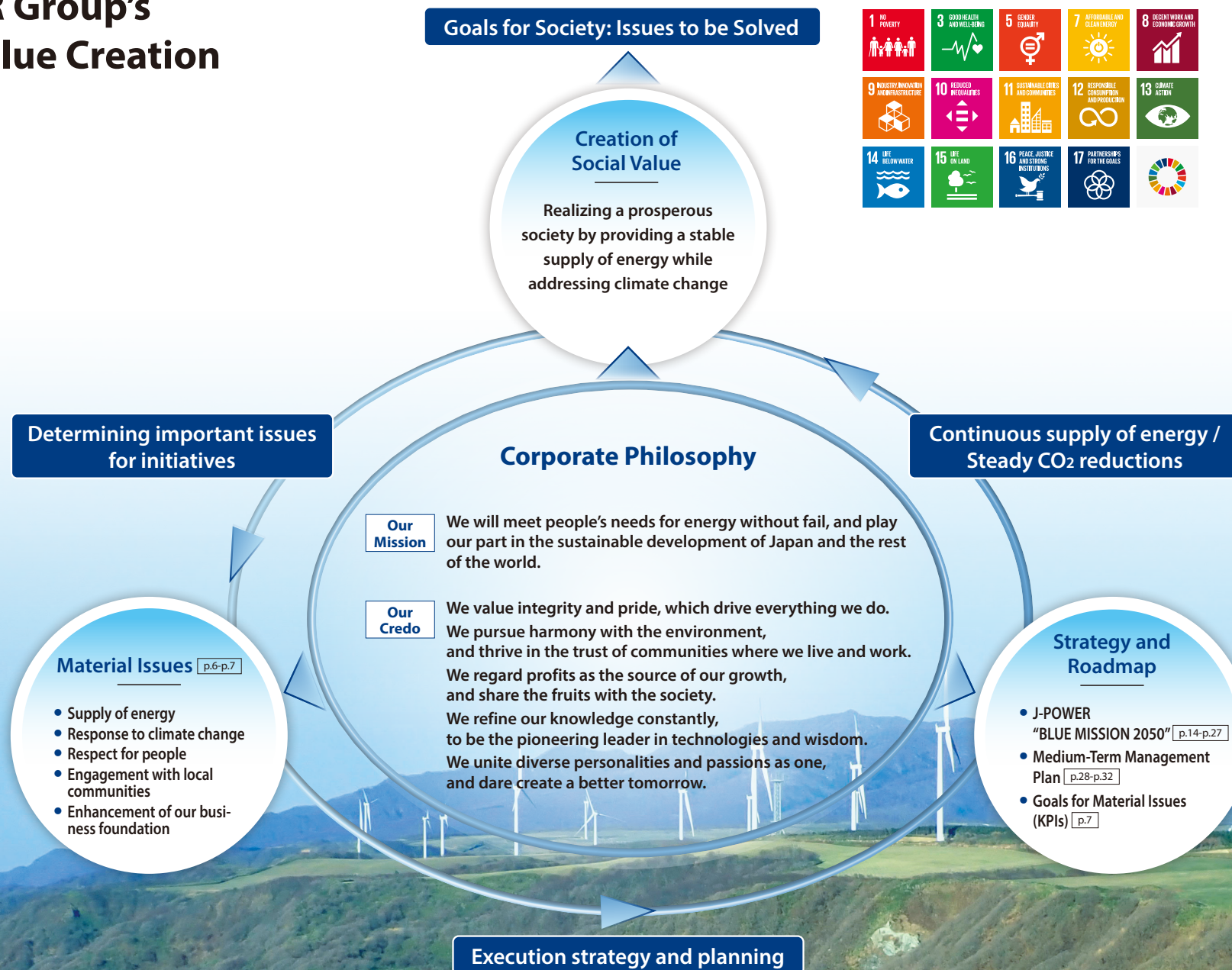
- Securities Report
- Financial Statements
- Earnings Results Presentation

- Basic Policy for Corporate Governance
- Compliance Action Guidelines
- J-POWER Group Environmental Basic Policy
- Basic Policy on Human Rights

- J-POWER Group Integrated Report 2022 Supplementary Material: Environment
- J-POWER Group Integrated Report 2022 Supplementary Material: Social
- J-POWER Group Integrated Report 2022 Supplementary Material: Governance



# J-POWER Group's Social Value Creation

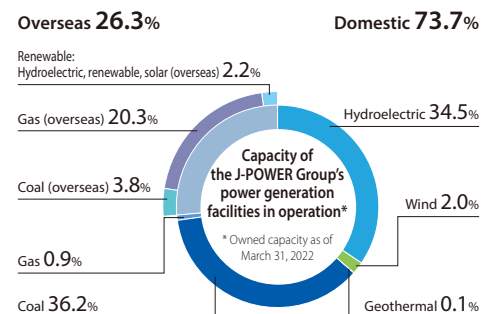


# J-POWER Group's History

Since its establishment by the government in 1952 to overcome the power shortages in postwar Japan, the J-POWER Group has developed its business in the wholesale supply of hydroelectric and thermal power, conducted a power transmission business through its trunk transmission lines that connect each domestic region, and contributed to the stable supply of electric power in Japan. Listed on the Tokyo Stock Exchange's First Section (currently the Prime Market) and thus becoming fully privatized in 2004, J-POWER has grown in response to the many different power needs of the time including an electric power generation business in foreign countries where growth is expected and the development of renewable energy such as wind, solar and geothermal power. Our current power supply mix is a well-balanced portfolio, enabling us to respond flexibly with the aim of becoming carbon neutral by 2050.

J-POWER celebrates its **70<sup>th</sup>** anniversary this year

## Composition of Our Well-Balanced Portfolio

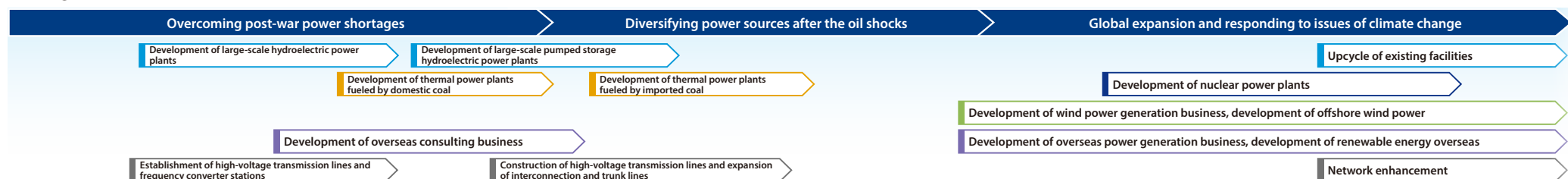


## Transmission and Transformation Facilities (As of March 31, 2022)

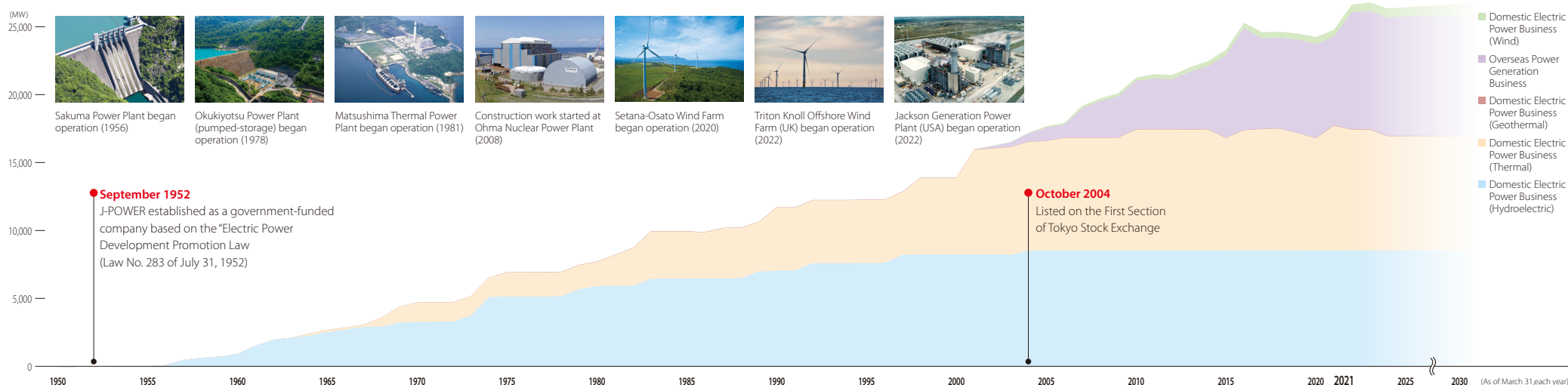
Transmission lines		2,410.1km
AC power transmission lines		2,142.9km
DC power transmission lines		267.2km
Substations	4 locations	4,301MVA
Frequency converter station	1 location	300MW
AC/DC converter stations	4 locations	2,000MW

Note: Includes capacity of consolidated subsidiaries and equity-method affiliates. Capacity is multiplied by J-POWER's investment ratio (equity ratio). The power transmission and transformation business is operated by J-POWER Transmission Network Co., Ltd.

## Evolving Needs

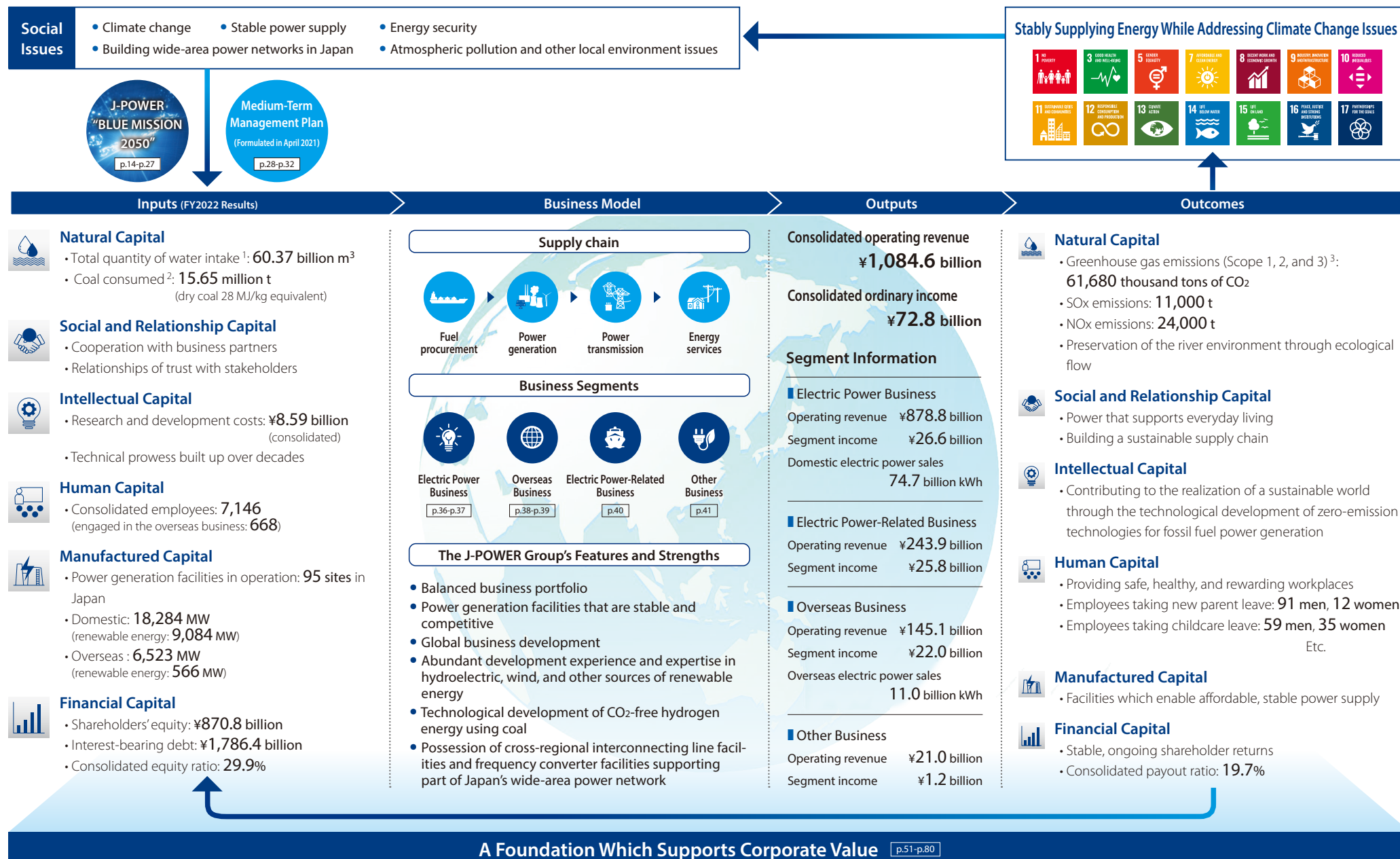


## Power Generation Capacity





# Value Creation Process



1. Consolidated subsidiaries, including those operating at home and abroad, are included in the figure for J-POWER and Electric Power Business and Electric Power-Related Business, etc.  
2. Consolidated subsidiaries, including those operating at home and abroad, are included in the figure for J-POWER and Electric Power Business and Electric Power-Related Business, etc. (Consolidated subsidiaries are considered in terms of investment ratio)

3. The figure includes J-POWER and domestic consolidated subsidiaries and equity-method affiliates in Electric Power Business, Electric Power-Related Business, etc. (Consolidated subsidiaries and equity-method affiliates are considered in terms of investment ratio)

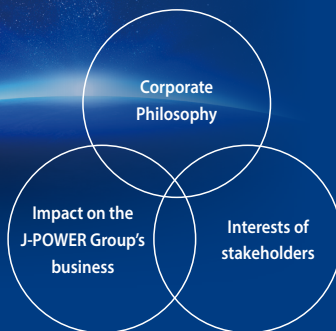
# Risks and Opportunities

Identifying Social Issues and Needs	Main Business Environment Challenges and the Associated Risks and Opportunities		Material Issues
Social Change	Risks	Response and Opportunities	
<b>Power resilience</b> <ul style="list-style-type: none"> <li>Stable operation of electric power facilities</li> <li>Being prepared for natural disasters</li> <li>Protecting the local environment</li> </ul>	<ul style="list-style-type: none"> <li>Facility accidents from natural disasters</li> <li>Difficulty in procuring fuel (soaring resource prices, supply shortages, geopolitical risks)</li> </ul>	<ul style="list-style-type: none"> <li>Investment in aging facilities</li> <li>Investment in network facilities</li> </ul>	 <b>Supply of energy</b>
<b>Changes in the business environment</b> <ul style="list-style-type: none"> <li>Changes in the electric power business system</li> <li>Changes in society's perception of nuclear power</li> </ul>	<ul style="list-style-type: none"> <li>Revenue fluctuations due to changes in market value</li> <li>Decreasing electricity sales</li> <li>Delays starting operations at Ohma Nuclear Power Plant</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen revenue and financial base</li> <li>Overseas business development</li> <li>Promote safe nuclear power generation business</li> </ul>	 <b>Response to climate change</b>
<b>Climate change</b> <ul style="list-style-type: none"> <li>Development of renewable energies</li> <li>Exploration of CO<sub>2</sub>-free hydrogen</li> <li>CO<sub>2</sub> reduction, Carbon Capture Storage (CCS) promotion</li> </ul>	<ul style="list-style-type: none"> <li>Profit deterioration due to CO<sub>2</sub> emission regulations</li> <li>Difficulties implementing CCS in society</li> <li>Difficulties securing suitable land for renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Development of CO<sub>2</sub>-free hydrogen</li> <li>Development of CO<sub>2</sub>-free power sources</li> <li>Network enhancement</li> </ul>	 <b>Respect for people</b>
<b>Transition to a digital society</b> <ul style="list-style-type: none"> <li>Digital transformation (DX), Cybersecurity</li> </ul>	<ul style="list-style-type: none"> <li>Cyber attacks</li> <li>Delayed use of digital technologies</li> </ul>	<ul style="list-style-type: none"> <li>Improve productivity by upgrading equipment maintenance</li> <li>Strengthen IT risk system, improve IT literacy</li> </ul>	 <b>Engagement with local communities</b>
<b>Domestic population decline, depopulation</b> <ul style="list-style-type: none"> <li>Human resource development</li> <li>Regional revitalization</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty in maintaining technological capabilities</li> <li>Less workers in rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Use of diverse human resources</li> <li>Improve productivity through streamlining work</li> </ul>	 <b>Enhancement of our business foundation</b>
<b>Growing interest in ESG</b> <ul style="list-style-type: none"> <li>Corporate governance</li> <li>Thorough compliance</li> <li>Improved information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>Decline in reputation</li> <li>Increased difficulty in raising funds</li> </ul>	<ul style="list-style-type: none"> <li>Attract ESG investment</li> <li>Strengthen governance</li> <li>Strengthen compliance</li> </ul>	



# Material Issues

Under our Corporate Philosophy of “We will meet people’s needs for energy without fail, and play our part in the sustainable development of Japan and the rest of the world,” the J-POWER Group has worked to improve its corporate value by contributing to the achievement of an affluent society through its business activities. As such, we have identified important social issues and established five material issues, namely: supply of energy, response to climate change, respect for people, engagement with local communities, and enhancement of our business foundation.



## Identification process

### Identification of social issues

We identified important social issues, with reference to the SDGs, key ESG issues, global trends, international standards such as ISO 26000, the GRI Standards, and others.

### Preparation of opinions on material issues

From the identified social issues, we wrote up opinions on material issues, taking into account the interests of the stakeholders, the relevance of our Corporate Philosophy, the impact on the J-POWER Group's business, and so on, as well as third-party opinions.

### Identification of material issues

Following discussions with the Sustainability Promotion Board and the Executive Committee, the Board of Directors made a determination of material issues.

## Material Issues



The Corporate Philosophy of the J-POWER Group states, “We will meet people’s needs for energy without fail, and play our part in the sustainable development of Japan and the rest of the world.” The supply of energy is the Group’s reason for being, and forms the foundation for resolving many issues in society.



Amid the worldwide heightening concern over climate change, the supply of energy and the response to climate change are social issues that cannot be considered in isolation. The J-POWER Group is working to balance both energy supply and climate change response through our technological capabilities.



The J-POWER Group prepares environments that enable active work by the employees and other human resources who support the Group’s activities. We also actively tackle diversity, human rights, and other social issues involving people. We will actively put into practice the words in our Corporate Philosophy: “We refine our knowledge constantly, to be the pioneering leader in technologies and wisdom” and “We unite diverse personalities and passions as one, and dare create a better tomorrow.”



The J-POWER Group’s large-scale energy supply business, which impacts our communities and the environment, is founded upon the understanding of the communities where we are located. Under our Corporate Philosophy of “We pursue harmony with the environment, and thrive in the trust of communities where we live and work,” we work toward the preservation of the environment and the establishment of relationships of trust with communities.



We will enforce the corporate governance and compliance that form the foundation of a company while also strengthening our profit and financial bases, so that we can resolve social issues and improve our corporate value through our business activities.






## Contribution to the SDGs



# Material Issues and Specific Initiatives

Following the identification of material issues and the establishment of action initiatives, we have set goals (KPIs) this year.

By steadily advancing our initiatives toward goals (KPIs), we will contribute to the achievement of the SDGs and strive to enhance our corporate value over the medium to long term.

Material Issues	Initiatives	Goals (KPIs)	Specific Initiatives
 Supply of energy	<ul style="list-style-type: none"> <li>Stable operation of electric facilities</li> <li>Preparation for/and response to natural disasters</li> <li>Strengthening of cyber security</li> </ul>	<ul style="list-style-type: none"> <li>Electricity Sales: Achieve initial fiscal year forecasts</li> <li>Appropriate review of BCP based on latest knowledge</li> <li>Expanded facility measures and crisis management system (including education and training)</li> <li>Zero major security incidents</li> </ul>	<ul style="list-style-type: none"> <li>J-POWER Group Businesses <a href="#">p.35-p.41</a></li> <li>J-POWER Group Facilities <a href="#">p.90-p.94</a></li> <li>Electricity Sales Volume and Load Factor <a href="#">p.34</a></li> <li>Emergency Management <a href="#">p.75</a></li> <li>ESG Data <a href="#">p.84-p.87</a></li> </ul>
 Response to climate change	<ul style="list-style-type: none"> <li>Reduction of greenhouse gases</li> <li>Development of renewable energy</li> <li>Pursuit of the possibility of CO<sub>2</sub>-free hydrogen</li> <li>Steady promotion of the Ohma Nuclear Power Plant Project, with safety as a major prerequisite</li> </ul>	<ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub> emissions from domestic power generation business by 7 million tons by FY2025 and 40% (19 million tons) by FY2030 (compared to FY2017-FY2019 three-year average)</li> <li>New development of renewable energy of over 1.5 million kW by FY2025 (compared to FY2017)</li> <li>Promotion of the CO<sub>2</sub>-Free Ohma Nuclear Power Plant Project on the basis of safety</li> <li>Promotion of green and blue hydrogen production and utilization of technologies in Japan and overseas</li> </ul>	<ul style="list-style-type: none"> <li>Reduce CO<sub>2</sub> emissions 40% or more (19 million tons) by 2030 <a href="#">p.16</a> * compared to FY2017-FY2019 three-year average</li> <li>New development of renewable energy of over 1.5 million kW by FY2025 (compared to FY2017) <a href="#">p.28</a></li> <li>Increase of hydroelectric power generation by 300 million kWh per year by FY2025 (compared to FY2017) <a href="#">p.28</a></li> <li>Promotion of the CO<sub>2</sub>-Free Ohma Nuclear Power Plant Project on the basis of safety <a href="#">p.20-p.21</a></li> </ul>
 Respect for people	<ul style="list-style-type: none"> <li>Respect for human rights</li> <li>Human resource development</li> <li>Assurance occupational health and safety</li> <li>Promotion of diversity</li> </ul>	<ul style="list-style-type: none"> <li>Formulation of a Human Rights Policy and promotion of initiatives</li> <li>Fostering human resources who can take on various management issues through the creation of a workplace that promotes continuous innovation</li> <li>Eliminating major disasters (zero fatalities or serious injuries)</li> <li>Maintain and improve high uptake rate of thorough medical check-ups (over 90%)</li> <li>Employee satisfaction surveys * Non-consolidated</li> <li>Number of female employees with senior roles: More than three times the number of employees in FY2021 (24 employees) by 2030 * Non-consolidated</li> <li>Appointment of foreign nationals to senior roles: Increase from FY2021 (147 employees) by 2030 in line with expanded overseas business</li> <li>Number of employees with senior roles among mid-career hires: More than 1.5 times the number of employees in FY2021 (110 employees) by 2030 * Non-consolidated</li> <li>Percentage of female employees among new hires: 20% or more * Non-consolidated</li> <li>Percentage of employees taking childcare leave: 100% * Non-consolidated</li> </ul>	<ul style="list-style-type: none"> <li>Respect for People <a href="#">p.57-p.63</a></li> <li>Occupational Health and Safety <a href="#">p.64-p.65</a></li> </ul>
 Engagement with local communities	<ul style="list-style-type: none"> <li>Preservation of local environment</li> <li>Creation of relationships of trust with local communities</li> </ul>	<ul style="list-style-type: none"> <li>Zero serious violations of environmental laws and agreements</li> <li>Effective utilization rate of industrial waste: Approx. 97%</li> <li>Active participation in local contribution activities</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Initiatives <a href="#">p.53-p.56</a></li> <li>Local Communities Engagement <a href="#">p.66-p.68</a></li> </ul>
 Enhancement of our business foundation	<ul style="list-style-type: none"> <li>Enforcement of corporate governance</li> <li>Enforcement of compliance</li> <li>Strengthening of our profit and financial bases</li> </ul>	<ul style="list-style-type: none"> <li>Continuous efforts to identify issues and improve them through annual evaluation of the effectiveness of the Board of Directors</li> <li>Strengthening efforts through the Compliance Action Committee via compliance activity reports, understanding the issues, and incident analysis</li> <li>Consolidated ordinary income: ¥90 billion or more in FY2023</li> <li>Consolidated equity ratio: 30% or more in FY2023</li> </ul>	<ul style="list-style-type: none"> <li>Corporate Governance <a href="#">p.69-p.73</a></li> <li>Compliance &amp; Risk Management <a href="#">p.76-p.77</a></li> </ul>



# Message from the President

**We aim to refine our technological capabilities, with a dual focus on ensuring a stable energy supply and addressing climate change.**

**The J-POWER Group will also grow.**

*T. Watanabe*

**Toshifumi Watanabe**  
Representative Director  
President and Chief Executive Officer

## Value the J-POWER Group creates for society

### The J-POWER Group's purpose is to provide the energy society needs.

Founded in 1952, the J-POWER Group celebrates its 70th anniversary this year. Social needs of energy resources have changed dramatically since that time. Listening closely to its stakeholders over the years, the J-POWER Group has demonstrated ingenuity based on its experience in order to provide society with energy solutions over the generations. These efforts have satisfied the needs and solved the issues of society, while also giving shape to who the Group is now.

The spirit of seeking out our own purpose amid a changing society is being passed on within the Group, and is a part of us still. We will continue to focus on seeking that the growth we achieve through our business activities contributes to solving societal issues, including climate change.

### Our mission is to both achieve energy security and address climate change.

Now, as the pandemic continues to affect people's lives, the world is confronting new issues such as an energy crisis caused by the situation in Ukraine. In Japan, the seasonal power supply and demand challenges and rising prices for all

fossil fuels have brought the risks of the country's power supply system to light. These circumstances require a serious re-acknowledgment of the importance of energy security in Japan. Meanwhile, measures to address climate change are also essential, with Japan now in a transition period on the way toward achieving its declared 2050 carbon neutrality goal. The mission we now pursue is continuing to stably supply the energy vital to economic activity and people's lives, while also steadily addressing climate change.

### We work to ensure energy security throughout the supply chain.

To ensure a stable supply of energy, we believe a stronger and more diverse energy supply chain is essential, as is achieving energy security throughout the supply chain. Leveraging the wide-ranging technical capabilities and knowledge it has accumulated over the years, the J-POWER Group will continue to work with its partners to build this supply chain. For example, we will be building a supply chain for the production, supply, and use of hydrogen. As one industry player, we hope to promote and be a leader in the movement to achieve a hydrogen society.

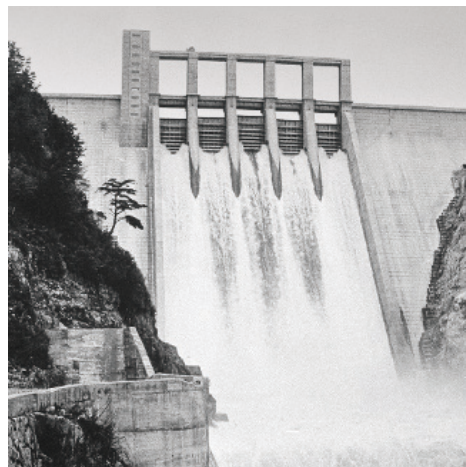
### Power plants will transform themselves through upcycling aimed at achieving carbon neutrality

We are upcycling our power plants to address climate change, an issue for all humanity. Our

## Message from the President

main efforts here are the NEXUS Sakuma and GENESIS Matsushima projects. The NEXUS Sakuma Project aims to upcycle the Sakuma Hydropower Plant, a large-scale hydropower facility developed to solve Japan's power shortage following World War II. Along with enabling CO<sub>2</sub>-free power supply for many years to come, the project aims to create a next-generation power plant that will create new value and achieve harmony with the environment, the river basin community, and plant personnel. The Matsushima Thermal Power Plant, built in 1981 to provide energy security after the oil crisis, is Japan's first large-scale overseas coal-fired power facility. Under the GENESIS Matsushima Project, the plant will continue to use some existing facilities while also deploying additional coal gasifi-

cation and hydrogen production technologies. The project will minimize the impact on stable power supply to the region and reduce CO<sub>2</sub> emissions in a short timeframe. The project is a first step toward commercializing CO<sub>2</sub>-free hydrogen generation, which is one of J-POWER's aims. An epoch-making power plant in J-POWER's 70 year history, the Matsushima Thermal Power Plant is now transforming through technologies we developed — a symbol of our bold advance into a new age.



The Sakuma Dam, completed in 1956



The current Matsushima Thermal Power Plant

### Progress with the J-POWER “BLUE MISSION 2050”

#### We aim to achieve carbon neutrality through three approaches

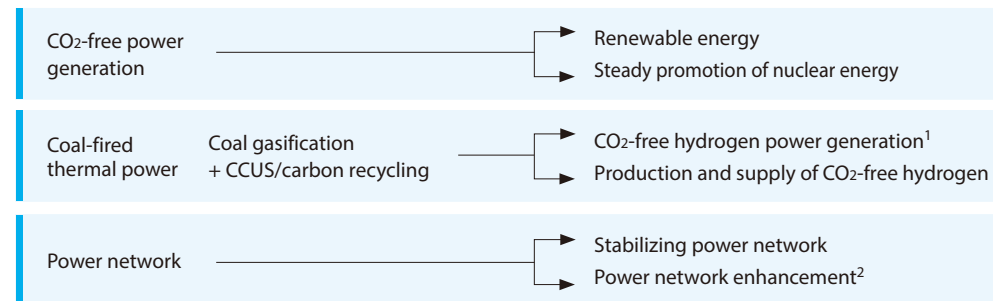
As a strategy to both provide a stable energy and address climate change, the J-POWER Group established the J-POWER “BLUE MISSION 2050” in February 2021. The J-POWER “BLUE MISSION 2050” lays out three approaches to achieve carbon neutrality by 2050: expanding CO<sub>2</sub>-free energy sources, achieving zero emissions from power generation, and expanding power network. We believe that

skillfully balancing these three approaches will enable us to achieve carbon neutrality by 2050 as quickly and economically as possible. [p.14](#)

#### We upcycle existing facilities to accelerate our transition to carbon neutrality

Technological development will be key to achieving our transition to carbon neutrality as swiftly and economically as possible. To that end, we are focusing on upcycling — rebuilding existing facilities in order to make it easier to deploy new technology and to reduce risks. Integrating existing equipment with new technologies will provide a means to create greater value. With projects such as NEXUS Sakuma and GENESIS Matsushima, we will be an early contributor to expanding CO<sub>2</sub>-free energy and

#### J-POWER “BLUE MISSION 2050”



1. Including the use of hydrogen extracted from ammonia for power generation  
2. Power network enhancement is an initiative of J-POWER Transmission

#### Priorities for implementation

Acceleration

Upcycle



## Message from the President



reducing CO<sub>2</sub> emissions through efforts that include introducing latest equipment, using DX and deploying additional technologies such as coal gasification and mixed combustion with biomass technologies. p.19 p.24

### Developing renewables on a global scale

With rising resource prices increasing the importance of renewables development, the J-POWER Group is aiming to bring its renewable power generation capacity to at least 1,500 MW by FY2025. We will prioritize funding for renewables development, making an investment on the order of ¥300 billion between FY2022 and FY2025. p.18

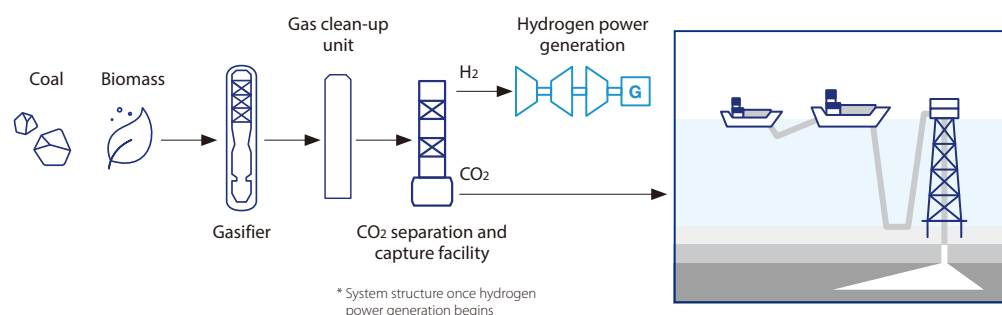
Overseas, operations commenced at the Triton Knoll Offshore Wind Farm in the UK in April, 2022. In Australia, we have acquired an equity stake in Genex, a renewables development

company, as part of efforts to develop onshore wind power and other renewables. Total power generation capacity in Japan and overseas that are currently under construction or undergoing assessments are over 1,200 MW in total, with further development coming. p.29

### We commence a feasibility study for a large-scale CCS project in Japan

To commercializing a large-scale CCS project in Japan to reduce CO<sub>2</sub> emissions from using fossil fuels, the J-POWER Group has launched a joint effort with ENEOS Holdings, Inc. to conduct the study. The study is being done for Western Japan, where both companies are producing emissions and where there is considered to be CO<sub>2</sub> storage potential. We aim to achieve social implementation of a large-scale CCS project by 2030. p.32

## CO<sub>2</sub> storage system



## Efforts to achieve the 2030 target



1. Compared with the average results from the three-year period from FY2017 to FY2019

2. Compared with FY2013

## Message from the President

### We established a new target to achieve a 7 million ton reduction in CO<sub>2</sub> emissions by FY2025

The J-POWER Group announced in 2021 that it would achieve a 40% reduction in CO<sub>2</sub> emissions from its domestic power generation businesses by FY2030. To give greater specificity to the plan, as a medium-term target, we announced a new target of achieving a 7 million ton CO<sub>2</sub> emissions cut by FY2025. Along with scaling down and decommissioning operations at aging coal-fired power facilities, we are expanding renewables production, reclassifying assets through upcycling, and implementing mixed combustion with biomass as part of efforts to reduce the CO<sub>2</sub> produced at our thermal power plants. p.16

### Achievements and assessment of the Medium-Term Management Plan

#### Energy resource market forecast

The energy resource market has undergone significant change since we announced the J-POWER "BLUE MISSION 2050" in February 2021. For a time, greater interest in ESG were causing reduced investments in fossil resources. Yet a rebound in demand as the world recovered from the COVID-19 pandemic saw resource prices surge as a result of supply shortages. Russia then invaded Ukraine, causing considerable turmoil. Since then, while countries have moved to

reduce their dependence on Russia as a resource producer, the turmoil is likely to continue for the time being as mitigating the effects of reducing this dependence will be difficult in the short term because of the scale of Russia's production.

#### Revenue and profit both increased in FY2021

The J-POWER Group saw year-over-year increases for both consolidated revenue and profit in FY2021. Income decreased year-over-year in the first half of the period as a result of several factors. These included a decline in gross profit from power generation business due to a drop in revenues caused by unscheduled power plant shutdowns and increased fuel costs owing to higher coal prices, as well as an increase in repair expenditures following regular inspections.

However, gross profit for the power generation business rebounded in the second half as shutdown facilities resumed stable operations and rising fuel costs were curbed through applying derivatives as hedging. Profit was further boosted by a rise in resource prices that benefited a subsidiary which has long held a stake in an Australian coal mines for the purpose of stably procuring coal. p.35-p.41

#### Establishment of the Risk Management Committee to address market changes

Resource and electric power price changes have a significant impact on the Group's performance. Rising resource price and renewables volatility are together causing unprecedented price volatility in the electricity market. To properly address these market changes, we have

### Medium-Term Management Plan Management Goals

	FY2020 results	FY2021 results	FY2023 target
Consolidated ordinary income	¥60.9 billion	¥72.8 billion	¥90.0 billion or more
Consolidated equity ratio	28.5%	29.9%	30% or more
Renewal energy development		FY2025 target	1,500 MW or more compared to FY2017
CO <sub>2</sub> emissions reduction	FY2030 target	-40% or more compared to the 3-year average of actual emissions for FY2017-2019	

established the Risk Management Committee, headed by the director in charge and with members consisting of the Energy Sales Division (in charge of electricity trading), Accounting & Finance Department on the corporate side, and the Corporate Planning & Administration Department. The committee will contribute to trading policy formulation by assessing the potential risks of market changes based on multiple scenarios and periodically gauging the impact of these changes on the Company's income and expenditures.

#### Strengthening our overseas business base

As part of efforts to expand and improve upon our overseas business through three major projects, the Triton Knoll Offshore Wind Farm in the UK and the Jackson Generation plant in the U.S. respectively began operations in April and May, 2022. The Central Java Coal-fired Power Plant, currently under trial operation, is expected to begin operations in the second half of 2022. With the start of operations at these plants, we have diversified the power sources of our overseas businesses and further strengthened our business base.

The state-of-the-art, gas-fired Jackson Generation project is a large-scale, high-efficiency, combined-cycle power plant in the U.S. Construction began in June 2019 with J-POWER Group in charge of everything from obtaining permits to construction and operation. Construction was carried out in stages while dealing with the effects of the worldwide spread of COVID-19, and commercial operation began on schedule. p.31

#### Efforts to boost asset efficiency

During our transition period toward achieving carbon neutrality, we expect to make further investments in areas such as renewables development. Along with the normal funding for development, we will be making active use of green bonds to secure funds as we strengthen our investment discipline. We screen all potential investments based on risk and capital cost to better ensure a return on investments, and aim to improve the profitability of projects with poor earnings potential by replacing assets. We aim to grow the company while working to achieve carbon neutrality.



## Message from the President

### Sustainability Initiatives

#### Sustainability Promotion Structures

The Board of Directors of J-POWER make decisions concerning important sustainability issues. The Group also has a sustainability promotion structure led by the Executive Vice President of ESG Oversight, who is appointed by the President and Chief Executive Officer. Additionally, we have a Sustainability Promotion Board and the J-POWER Group Sustainability Promotion Conference, through which we promote environmental initiatives and other aspects of sustainability across the group. The Sustainability Promotion Board deliberates on all aspects of sustainability, including strategy, planning, policy, and risk management. It also makes suggestions about and reports on important matters to the Board of Directors and Executive Committee. The Corporate Planning & Administration Department's ESG & Corporate Research Office, established in April 2021, serves as the administrative office for the Sustainability Promotion Board.

In FY2021, we made the basic policy on sustainability and identified five material issues, while in FY2022 we have so far formulated the basic policy on human rights and taken steps to establish actions and KPI to address these material issues. As these sustainability initiatives had

already been a part of the J-POWER Group's corporate culture, we were able to take quick action and make relatively smooth progress. We will continue to improve our sustainability initiatives in order to better meet the expectations of our stakeholders. p.51-p.52

#### Efforts to enhance our information disclosure in accordance with the TCFD

With the belief that its business activities are inseparable from its response to climate change, the J-POWER Group endorses the Task Force on Climate-related Financial Disclosures (TCFD) and discloses information according to the TCFD Recommendations. Our disclosures in 2022 follow newly added TCFD guidance.

In our scenario analysis, we use the "40% reduction in CO<sub>2</sub> emissions by FY2030" target as the base scenario and conduct a clear analysis of the quantitative impact that will be had on the company's finances. We also analyze a risk scenario that looks at the impact to our business in FY2030 if global CO<sub>2</sub> emission reductions proceed according to the IEA's Net Zero Emissions by 2050 Scenario.

In addition, we state our ability to take a multifaceted, flexible approach based on our well-balanced energy - source portfolio in a scenario for 2050, a year targeted by Japan and many other countries for achieving carbon neutrality. p.42-p.50

#### Fostering technical capabilities, a strength of the Group

Our technical capabilities are a strength of the Group, and we are refining these capabilities in practical ways through project developments and consulting businesses, as well as through the maintenance of our existing facilities. Because of the global nature of its business, the J-POWER Group has a wealth of opportunities to enhance its technologies. We have built a virtuous cycle where we develop specialized technologies through the course of actually engaging in activities such as project development and the maintenance of our facilities, use those technologies to acquire new development projects, and leverage technologies acquired through the maintenance of existing facilities toward those projects. p.39 p.61-p.62

#### Building comfortable work places

For the J-POWER Group, human capital is the force that drives continuous innovation and technical advancement. We believe that a diverse workforce achieving self-actualization

through work is what enables the company to achieve its goals and brings job satisfaction and enables the maximization of one's abilities. That is why the J-POWER Group aims to create systems and workplaces that allow a diversity of people to thrive, and why we have implemented a work-from-home program and a wide range of employee support systems for different lifestyles. We also conduct employee satisfaction surveys and apply what we learn to building comfortable workplaces. p.57-p.63

#### Community Engagement

The J-POWER Group has built large facilities for businesses that include power generation and transmission, and has run them for a long time. This is why gaining local communities' support of our business activities and building trust-based relationships is the foundation for conducting our business activities. Along with observing environmental regulations and agreements while preserving local environments, we engage with local communities as a good corporate citizen through community outreach activities. p.66-p.68

#### Inclusion in ESG Indices



FTSE Blossom  
Japan



FTSE Blossom  
Japan Sector  
Relative Index

\* FTSE Blossom Japan Index Series (<https://www.ftserussell.com/products/indices/blossom-japan>)

## Message from the President

### Transition to a Company with an Audit & Supervisory Committee

#### Transition to a Company with an Audit & Supervisory Committee

The J-POWER Group has become a company with an Audit & Supervisory Committee to enable speedy execution of business. Our goal is to ensure management transparency and fairness, while also expanding the monitoring functions of the Board of Directors and enhancing the effectiveness corporate governance.

The J-POWER Group is currently in a transitional period toward achieving carbon neutrality, and must innovate and solve issues in numerous areas. Moreover, business opportunities and risk profiles are changing as electricity system reforms prompt market structure changes. This will require that we act swiftly and

boldly, while corporate management's strategies and coolheaded decision-making will be needed more than ever. As a means to ensure speedy execution of business, the Board of Directors will task Board members with important business and define their roles. In addition, instituting a performance-based compensation and share-based compensation for these Directors will encourage our entire executive team to come together and focus on achieving management goals while improving corporate value for the medium- to long-term.

Delegation of authority has reduced the number of individual proposals submitted to the Board and should give them more time to discuss medium- to long-term strategy and monitor operations. When monitoring operations, Board members will reference such things as the management targets and new material issues we have established to enhance management effectiveness. p.69-p.73

#### Maintain and improve audit functions

Our audit functions will be preserved following the changes to our governance system. In addition to auditing the legality of the means by which Board members execute their duties, Audit & Supervisory Board members have traveled to local organizations and subsidiaries, both in Japan and overseas, to assess the state and impacts of companies' execution of business. They have then relayed their findings to the Board of Directors, serv-

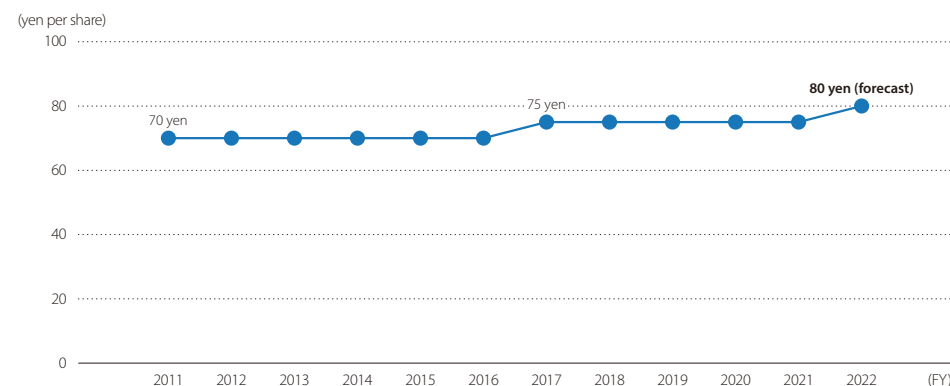
ing to inform and follow up on the health of the company's management. To ensure that our audit functions do not regress after our governance system changes are made, we have created a system to support the Audit & Supervisory Committee by establishing the office of Audit & Supervisory Committee members and appointing Audit & Supervisory Executive officers, who are well acquainted with the Company's internal business. p.71

#### Shareholder Return

For FY2022, we forecast a significant profit increase from a subsidiary with mining rights in Australia due to rising coal prices and, even if discounting such short-term profit fluctuation factors, we expect increased profits due to factors that include the reinstatement of thermal power facilities that started experiencing

issues in FY2021. Although we will be making investments towards carbon neutrality and phase out our coal-fired facilities in order to reduce CO<sub>2</sub> emissions, we expect to significantly increase profits through these investments we have made, and we plan to increase our dividend by ¥5 in the first half of FY2022.

#### Annual dividends per share



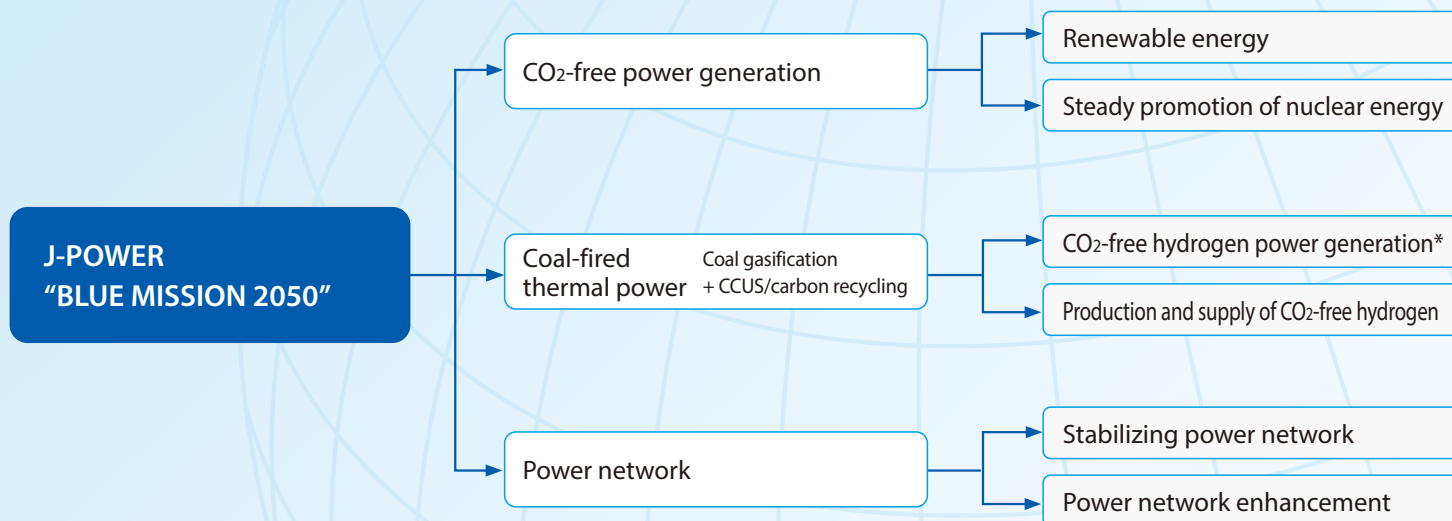


# J-POWER "BLUE MISSION 2050"



In an effort to realize a carbon-neutral and hydrogen society, in February 2021, the J-POWER Group announced the J-POWER "BLUE MISSION 2050" which presents three approaches to reach carbon neutrality with priorities for their implementation centered on acceleration and upcycling.

## Action Plan



\* Including the use of hydrogen extracted from ammonia for power generation

## Priorities for Implementation

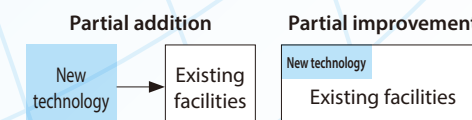
### Acceleration

Having deployed renewable energies nationwide to date, the J-POWER Group will further accelerate their expansion.

By offering power balancing capabilities through technologies such as CO<sub>2</sub>-free hydrogen power generation, and by contributing to the enhancement of the power network, the Group will also support the expansion of renewable energy throughout Japan.

### Upcycle

The Group aims to apply new technologies at an early stage with economic rationality while reducing environmental impact by upcycling (creatively converting) its existing resources into high value-added ones.

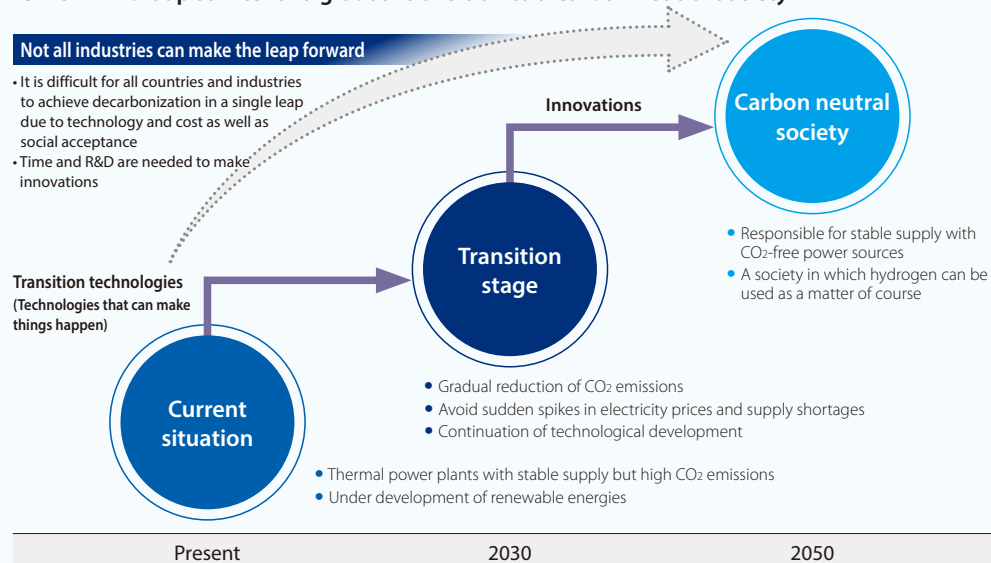


## J-POWER “BLUE MISSION 2050”



### J-POWER “BLUE MISSION 2050” as a transition strategy

#### J-POWER Group strives for a gradual transition to a Carbon neutral society



Based on the Ministry of Economy, Trade and Industry's (METI), *Transition Finance - Toward a Transition to Decarbonization*

#### Why do we need a transition strategy?

To achieve a sustainable society and carbon neutrality are common goals for the whole world. However, the means to achieve these goals depend on the circumstances of each country and industrial sector. Moreover, a lot of time and R&D are required to create and implement innovations, making it difficult to achieve carbon neutrality in all countries and industries in one go. Additionally, the shutting down and decommissioning of large-scale power plants that comes with a rapid shift to decarbonization will have a major impact on local economies and employment. A transition strategy is therefore vital for a gradual transition toward carbon

neutrality. Electric power in particular, which forms the basis of our social and economic activities, needs to shift toward decarbonization while maintaining both stable supply and stable prices.

The J-POWER “BLUE MISSION 2050” is a transition strategy that aims to move toward a carbon-neutral and hydrogen society by 2050 while maintaining stable power supplies. While taking on the challenge of innovation based on our technologies and knowledge, we will steadily advance toward a carbon neutral society while gradually overcoming the challenges of renewable energy, thermal power supply, and power networks.

#### Resolving issues with the J-POWER “BLUE MISSION 2050”

##### ■ Expansion of renewable energy

With the aim to become a mainstay power source in the future, we will promote new development in renewable energy, and improve its value. Yet, renewable energy such as solar and wind power, does have its problems with output dependent on the weather and time of day, resulting in an instable power system. At present, it is not possible to flexibly respond to sudden fluctuations in supply and demand, and large-scale use of renewable energy may interrupt the stable supply of electricity. The J-POWER Group will work on developing hydrogen power and upcycling hydroelectric power which will act as sources for balancing energy. We will also strive to enhance value in the large-scale pumped-storage hydroelectric power generation we own. By functioning as a type of water battery in terms of both absorbing surplus power and supplying power when there isn't enough, we will contribute to a more stable power network.

##### ■ Nuclear power as a CO<sub>2</sub>-free power source

Nuclear power is a baseload, CO<sub>2</sub>-free power source. We will promote the Ohma Nuclear Power Plant Project with the highest priority on ensuring safety.

##### ■ Zero emission power sources

Thermal power sources, which can generate a large amount and stable supply of electric

power, will be the energy that supports the period of transition to carbon neutral by reducing CO<sub>2</sub> emissions. While gradually reducing CO<sub>2</sub> through the use of biomass and ammonia, we will also switch to hydrogen power by applying coal gasification and CO<sub>2</sub> separation and capture technologies. We hope to achieve CO<sub>2</sub>-free hydrogen power generation by also combining with CCUS (carbon capture, usage and storage) technology.

##### ■ Realization of a hydrogen society

The widespread use of hydrogen energy is essential for the decarbonization of society as a whole, including industrial sectors other than electric power, but it requires a large and stable supply of hydrogen. The J-POWER Group aims to produce and supply hydrogen in different ways, including CO<sub>2</sub>-free hydrogen produced from fossil fuels and hydrogen derived from renewable energy.

##### ■ Power network stabilization and enhancement

The issues involved with the mass introduction of renewable energy include stabilizing the grid and expanding the power network to carry electricity from suitable renewable energy generating areas to larger cities where much of it is used. The J-POWER Group will contribute to the stabilization and enhancement of the power network across the whole of Japan by improving frequency converter facilities, DC transmission lines, and submarine cables.

## J-POWER "BLUE MISSION 2050"



## Roadmap

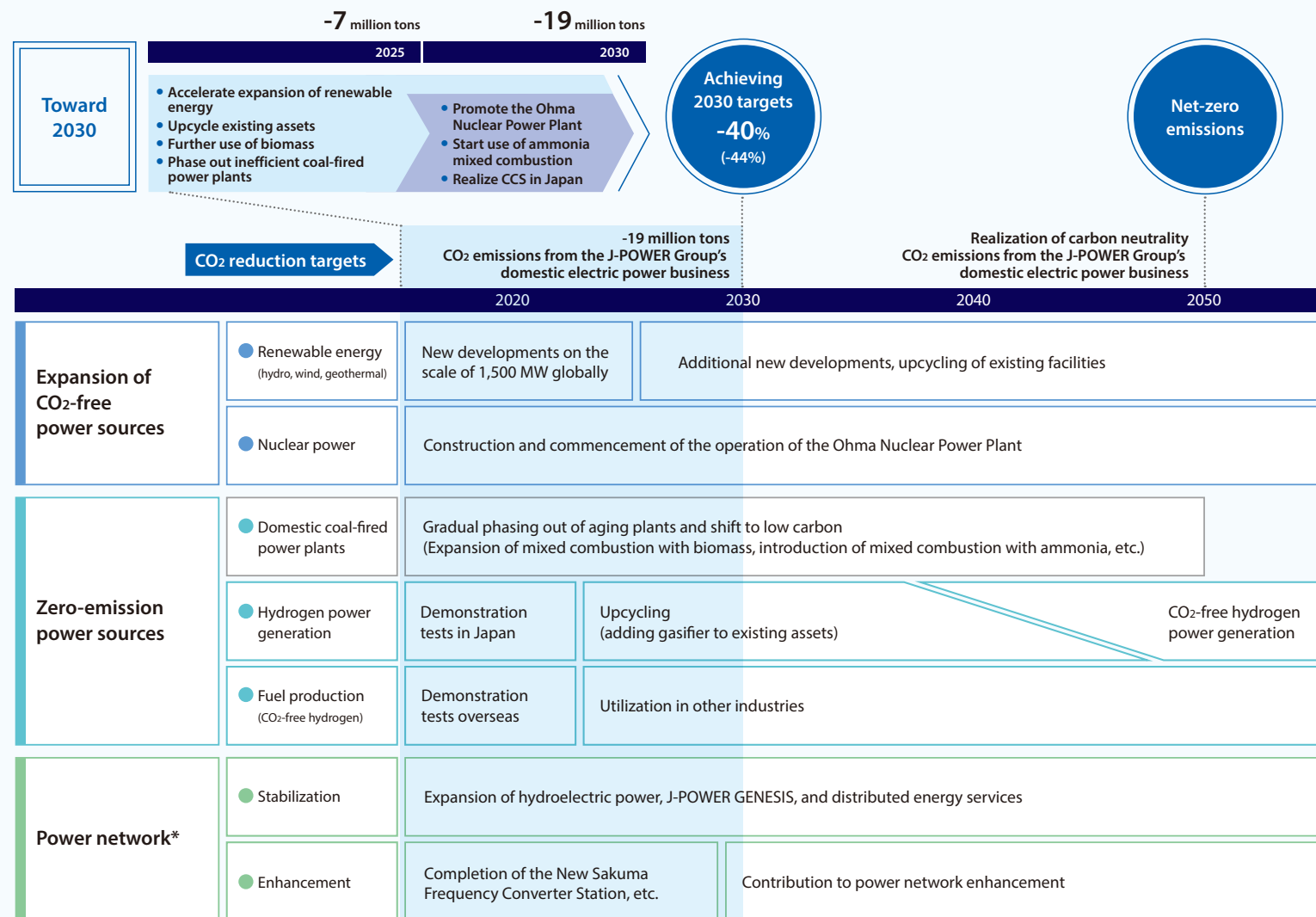
## Achieving the J-POWER "BLUE MISSION 2050"

The J-POWER Group is promoting a transition strategy (see p.15) that aims to transition to a carbon-neutral and hydrogen society by 2050 while maintaining a stable supply of electricity. The Group has set a new target of reducing 7 million tons of CO<sub>2</sub> emissions by FY2025 in order to achieve the interim 2030 target.

We will work to develop 1,500 MW of renewable energy by FY2025, in addition to efforts to lower carbonization in thermal power with biomass mixed combustion.

Furthermore, we will reduce carbon emissions through phasing out and upcycling aging coal-fired power plants.

By 2030, we will aim to further reduce CO<sub>2</sub> emissions by 19 million tons by starting operations at the Ohma Nuclear Power Plant, mixed combustion CO<sub>2</sub>-free ammonia in coal-fired power, and implementing CCS (carbon, capture and storage).



Notes: This roadmap will be updated and detailed as needed based on government policy conditions and the progress of industry development. In addition, the Group will review its contents as prerequisites change.  
The amount and rate of CO<sub>2</sub> reductions are compared against three-year averages from FY2017 to FY2019. Figures in parentheses are compared against FY2013.

\* J-POWER Transmission Initiatives



## J-POWER “BLUE MISSION 2050”



### Development Status of Renewable Energy

#### The J-POWER Group, one of Japan's leading renewable energy providers

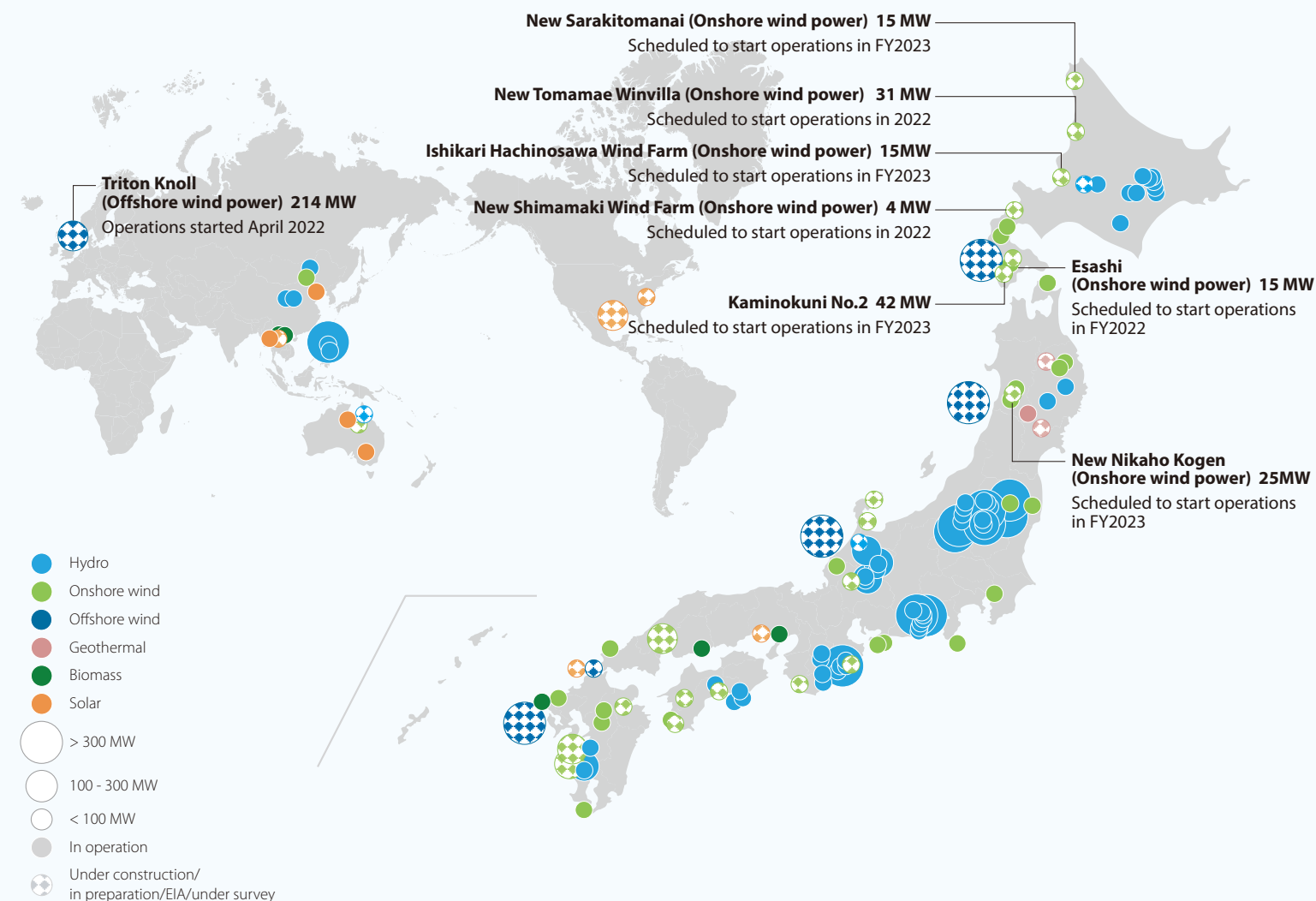
The J-POWER Group has a history of renewable energy development spanning approximately 70 years. The Group has extensive facilities and a wealth of knowledge gained through many years of construction, maintenance and operation. Renewable energy accounts for 50% of the Group's total generation capacity, and the Group is the second largest operator of hydroelectric and wind power respectively in terms of generation capacity in Japan.

As one of Japan's leading renewable energy providers, the Group utilizes its predominance and maximizes the value of existing facilities through wind and hydroelectric upcycling while at the same time aiming for further growth by promoting new developments in fields such as onshore and offshore wind power, small-scale hydroelectric power, geothermal power, and solar power.

#### Prioritizing investment in renewable energy

Going forward, the Group will be prioritizing investment in renewable energy and, by FY2025, will develop new facilities, expanding the Group's scope by 1,500 MW in comparison to FY2017. (See p.18)

#### Development Status of Renewable Energy (As of March 31, 2022)



• Generation capacity is calculated on owned capacity and, if capacity is not yet decided, on estimated maximum owned capacity.

• In addition to the above, wind power of up to about 1,850 MW is under research for development at four sites in Japan's general sea area (the operator of offshore wind power in the general sea area is decided by bidding after designating the promotion area, output for joint projects with other companies is estimated based on maximum capacity without considering equity for calculation).

## J-POWER “BLUE MISSION 2050”



### Expansion of renewable energy

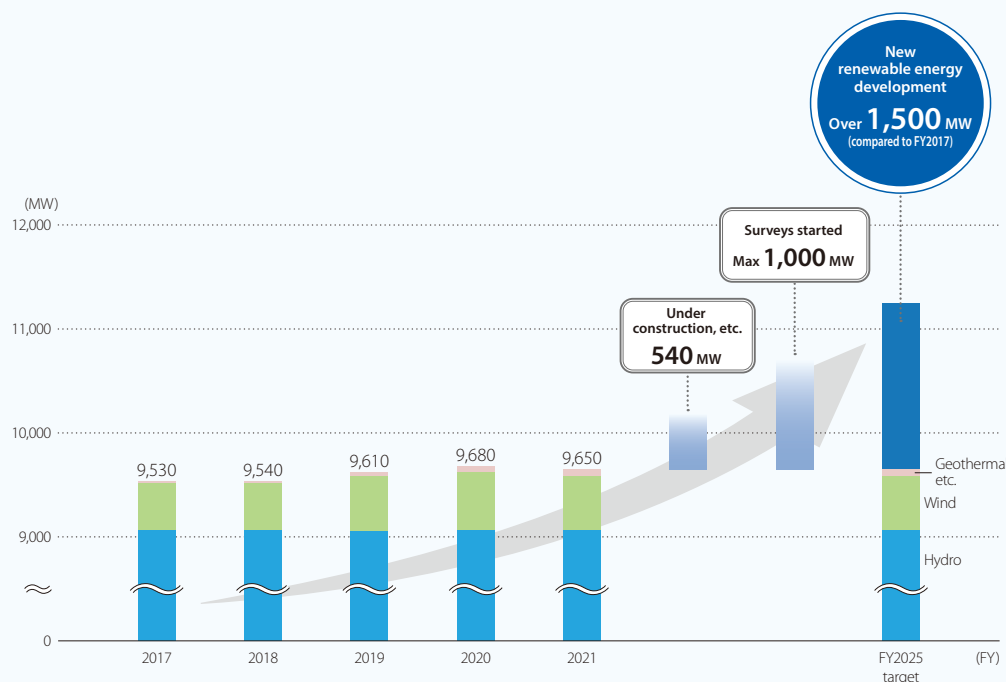
The introduction of renewable energy is expanding worldwide. As such, the J-POWER Group will accelerate the development of new renewable energy in Japan and overseas by prioritizing the allocation of investment and increasing personnel.

The main focus of development is on domestic onshore wind power. Project sites amount-

ing to roughly 800 MW under the environmental impact assessment.

In terms of hydropower, we are working to develop small-scale hydroelectric power plants and repower by renewing water turbines, etc., setting a FY2025 target of increasing hydroelectric power generation by 300 million kWh per year (compared to FY2017).

### Renewable energy development goals (As of March 31, 2022)



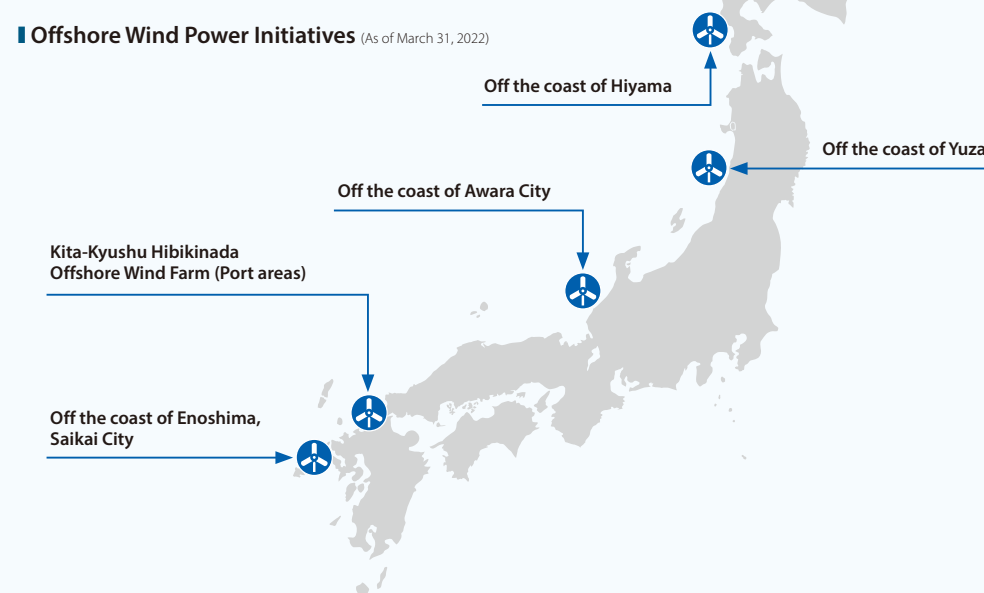
Note: Owned capacity basis

### Offshore wind power initiatives

In April 2022, the UK's Triton Knoll offshore wind farm began operations. For the construction of this wind farm, two engineers were dispatched from J-POWER where they gained experience with offshore project management and expertise on construction. This expertise is utilized in the Kita-Kyushu Hibikinada Offshore Wind Farm project (See p.62). Moreover, we established the

Offshore Wind Power Business Dept. within the company in April 2022 which will help us to continue to develop offshore wind power in the future.

### Offshore Wind Power Initiatives (As of March 31, 2022)



#### Domestic

Location	Generation Capacity	Status
General sea areas (4 locations)	Max. 1,850 MW	Development survey in progress
Port areas (1 location)	Max. 220 MW 40% stake 88 MW (owned capacity)	In preparation

## J-POWER “BLUE MISSION 2050”



## Upcycling to next generation hydroelectric power plants

Built to solve the power shortage after WWII, the Sakuma Hydropower Plant has contributed to the stable supply of electricity for over 60 years. J-POWER will transform it into a next-generation hydroelectric power plant that creates new value and energy by bringing together hydroelectric power, regions and drainage areas, and working people. The project was named NEXUS with the idea of “comprehensively engaging and thinking about what we (US) can do for a sustainable future (NEXT)”, centering on “hydroelectric power,” “local communities,” and “people.” The project not only replaces equipment but also aims to realize the next-generation hydroelectric power plant needed by the local community and society.

### Next-generation hydroelectric power plants generating new value and energy

#### Further increase in power output and generation capacity



Maximizing valuable, purely domestic renewable energy  
Contributing to the stabilization of power networks by improving adjusting capacity

#### Engagement with local communities



To become a power plant trusted and needed by the community  
Working on what we can do through communication with local communities.

#### On-site capabilities × digital technology



With the latest technology, J-POWER will transform into a workplace where people can more easily achieve high performance, more effectively ensure high quality, and more safely work with security.

## NEXUS

This project was named NEXUS<sup>1</sup> after “NEXT US,” a vision of sustainable and better future required by people and society in the local communities. J-POWER will comprehensively address the issues that it should undertake for hydropower generation, regions, drainage areas, and people.

Transformation into a new  
high-value-added power plant

#### The plant was built by using the engineering marvel of the time

Use of large earth-moving machines enabled the project to be completed in just three years, becoming a model for other projects.

#### Japan's largest class hydropower generation

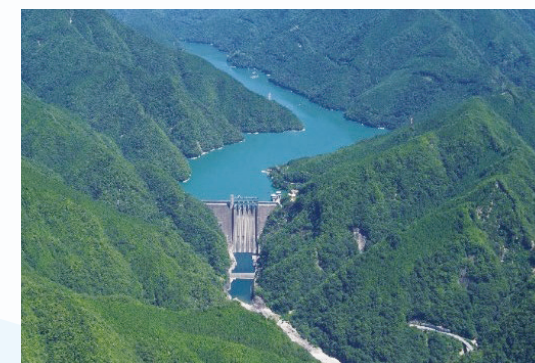
Maximum output: 350 MW  
Annual power generation: Approx. 1.4 billion kWh<sup>2</sup>

#### Abundant water resources from Lake Suwa

Basin area: 4,156.5 km<sup>2</sup>  
Total water storage capacity: 326.85 million m<sup>3</sup>

#### Power supply to both 50 and 60 Hz areas

The plant contributes to stable supply in both east and west Japan.



Sakuma Hydropower Plant, Hamamatsu City, Shizuoka Prefecture (present)

A huge amount of electricity has been generated by the Sakuma Hydropower Plant

Notes: 1. Trademark registration pending

2. Equivalent to the annual power consumption of approximately 460,000 ordinary households



## J-POWER "BLUE MISSION 2050"



### Steady promotion of the Ohma Nuclear Power Plant Construction Plans

The Ohma Nuclear Power Plant, a large-scale power plant with a capacity of 1,383 MW, will be a CO<sub>2</sub>-free power source capable of stably producing large amounts of electricity once it begins operation. In addition, it will be the only power plant in Japan capable of using MOX fuel, made by recycling spent fuel, for the entire core.

For energy resource-scarce Japan, nuclear power is a power source that excels in terms of large-scale CO<sub>2</sub>-free power, stable procurement and storage of fuel. The operation of the Ohma Nuclear Power Plant will promote the reprocessing of spent fuel in Japan, contributing to the stable operation of other nuclear power plants nationwide, which are CO<sub>2</sub>-free power

sources, helping to improve the energy self-sufficiency of Japan.

The J-POWER Group is implementing the Ohma Nuclear Power Plant Project by ensuring safety as its top priority.

#### Overview of the Ohma Nuclear Power Plant Construction Plans

Location	Ohma-machi, Shimokita-gun, Aomori Prefecture
Capacity	1,383 MW
Type of nuclear reactor	Advanced boiling water reactor (ABWR)
Fuel	Enriched uranium and uranium-plutonium mixed oxide
Start of construction	May 2008
Start of operations	To be determined

#### Social Issues

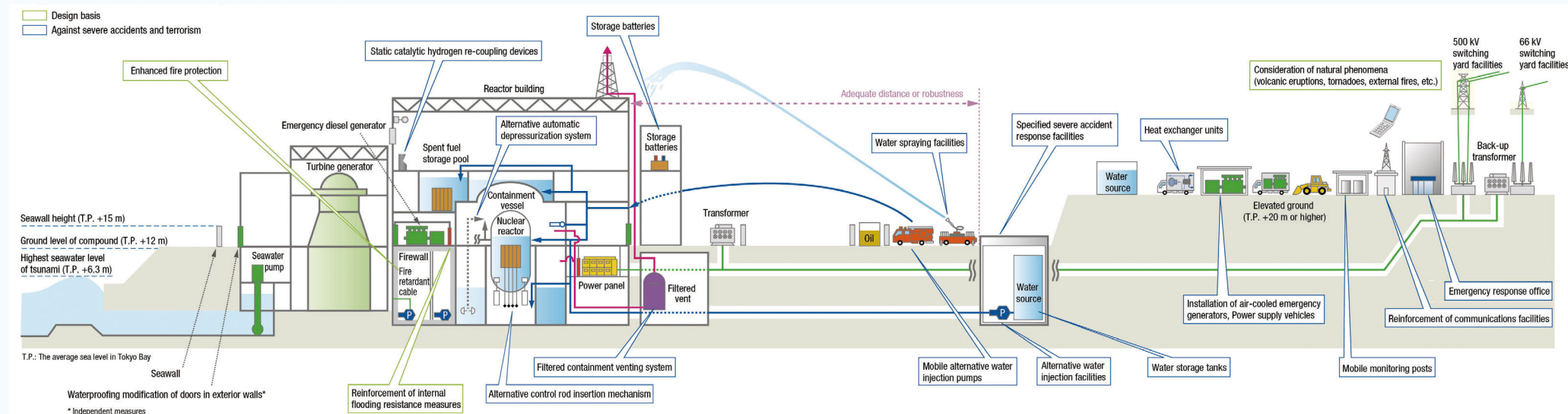
- Stable energy supply
- Securing diverse energy sources in Japan, a country with few energy resources
- Climate change

#### Value that the J-POWER Group Creates

- Both responding to the climate change issue and stable supply of power with CO<sub>2</sub>-free baseload power sources
- Using MOX fuel to promote the nuclear fuel cycle and contribute to securing diverse energy sources



### Illustration of Measures to Reinforce Safety at the Ohma Nuclear Power Plant



## J-POWER "BLUE MISSION 2050"



## Steady promotion of the Ohma Nuclear Power Plant Construction Plans

## Ohma Nuclear Power Plant Safety Reinforcement Measures and Review Status

In the wake of the accident at the Fukushima Daiichi Nuclear Power Station, the new regulatory standards established by the Nuclear Regulation Authority are now thought to be the strictest safety standards in the world. At the Ohma Nuclear Power Plant, we are learning the lessons from the Fukushima Daiichi accident and incorporating measures to strengthen safety based on these new regulatory standards.

Examples include strengthening design standards to protect the functions of power plant safety equipment from natural disasters such as tsunamis and earthquakes, measures to respond promptly in the event of a severe acci-

dent, and measures to prevent serious accidents caused by terrorism and other causes. Furthermore, by not limiting ourselves to these measures and voluntarily and continuously improving safety based on the latest knowledge, we will strive to make the Ohma Nuclear Power Plant the world's safest power plant so that we can contribute to the local community and Japan.

The Nuclear Regulation Authority is currently reviewing the Ohma Nuclear Power Plant's compliance with the New Safety Standards for Nuclear Power Stations. Fifty-four review meetings have been held as of the end of April 2022, and our explanations are gradually being better understood and we are making steady progress.

At present, seismic motion evaluation is under review to determine standard seismic motion. As the business operator, we are unable to predict the progress of the compliance review. However, once the review has been passed, we will begin construction on facility safety reinforcement in the latter half of 2022 based on the review findings, with the aim of completion in the latter half of 2027.

## Ohma's position in the pluthermal project

In July 2018, Japan's Atomic Energy Commission (JAEC) issued a new policy paper, *The Basic Principles on Japan's Utilization of Plutonium*, which stated that Japan will reduce the size of its plutonium stockpile. The Federation of Electric Power

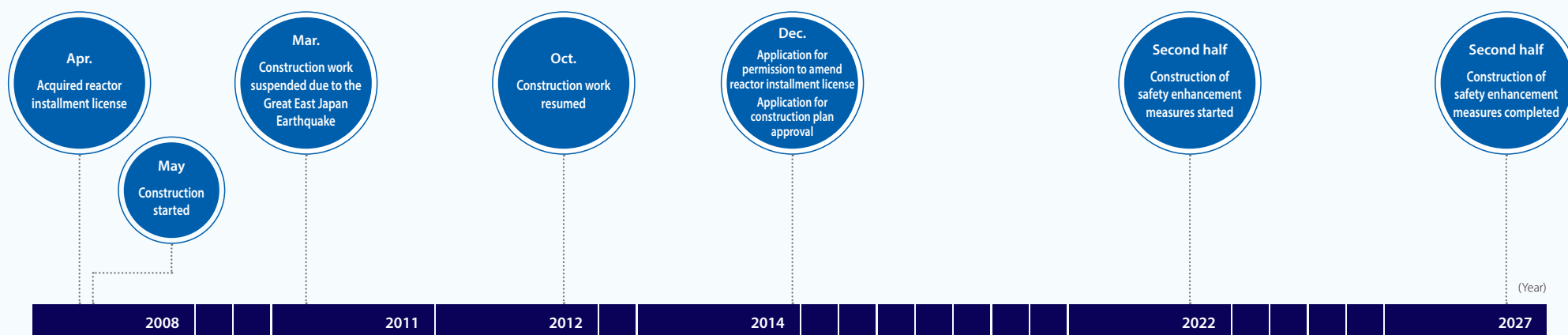
Companies of Japan (FEPC) unveiled in December 2020 its Pluthermal Program and a new plan for the utilization of plutonium in February 2022. In February 2022, J-POWER also released its MOX Fuel Utilization Plan at the Ohma Nuclear Power Plant. Approximately 1.7 tons\* of plutonium can be used annually at the stage of loading MOX fuel into all reactor cores, thereby helping to reduce the size of plutonium stockpiles.

\* This had been set to the amount of fissile plutonium (about 1.1 tons). However, since the setting of "The Basic Principles on Japan's Utilization of Plutonium" by the Japan Atomic Energy Commission in July 2018, which notes total amount of plutonium, we have set this to the total amount of plutonium (about 1.7 tons).

For details of safety enhancement measures, please refer to the J-POWER website. (Japanese only)

[https://www.jpowers.co.jp/bs/nuclear/safety\\_measure/](https://www.jpowers.co.jp/bs/nuclear/safety_measure/)

## Process (actual results and outlook)



## J-POWER “BLUE MISSION 2050”



### CO<sub>2</sub>-free Hydrogen Energy

#### Two ways to produce hydrogen

In order to ensure the future production of and power generation from CO<sub>2</sub>-free hydrogen, the J-POWER Group is conducting demonstration tests of two methods— one being to import coal and produce CO<sub>2</sub>-free hydrogen in Japan, and the other being to produce CO<sub>2</sub>-free hydrogen in coal-producing regions overseas before transporting it to Japan, considering advantages and disadvantages of these methods.

#### Non-electrified sector needs large amounts of hydrogen

To achieve carbon neutrality, it is necessary to promote electrification, but a large amount of hydrogen is needed for decarbonization in sectors where electrification is difficult, such as transportation and steel manufacturing.

#### Limits to the amount of renewable energy installed

The production of CO<sub>2</sub>-free hydrogen derived

from renewable energy sources is limited in Japan due to geographical constraints, and CO<sub>2</sub>-free hydrogen derived from fossil fuels is necessary to produce CO<sub>2</sub>-free hydrogen in large quantities and in a stable manner.

#### Coal with excellent storable properties and low geopolitical risk

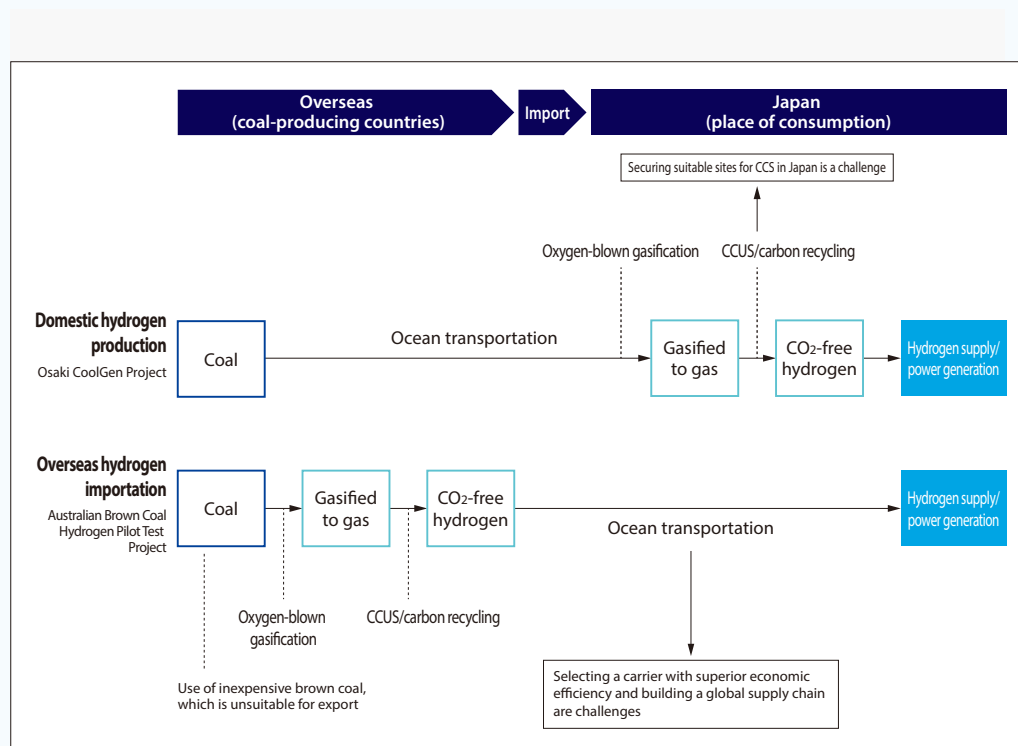
Coal exists all over the world and it is characterized by its excellent storable properties and low geopolitical risk. Therefore, in order to stably

produce CO<sub>2</sub>-free hydrogen in large quantities, it is effective to use coal.

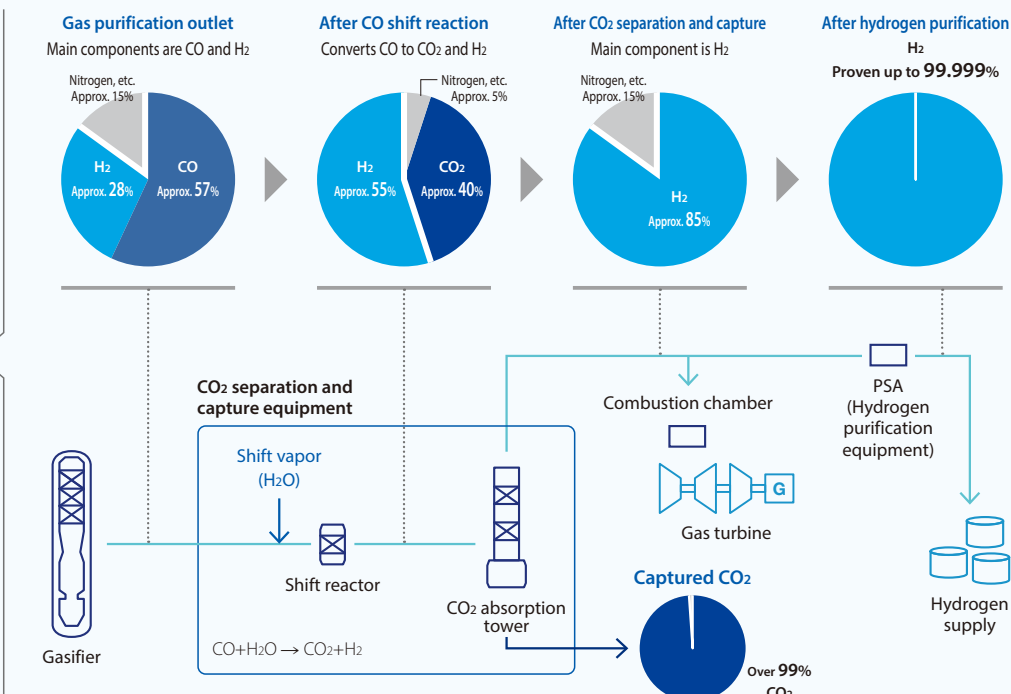
#### Contributing to the reduction of atmospheric CO<sub>2</sub>

CO<sub>2</sub> generated during coal gasification can be separated and captured through CCUS/carbon recycling to produce CO<sub>2</sub>-free hydrogen. In addition, mixed combustion biomass enables negative emissions.

\* CCUS: Carbon dioxide Capture, Utilization, and Storage



#### Hydrogen production process by oxygen-blown coal gasification





## J-POWER "BLUE MISSION 2050"



## Osaki CoolGen Project

The Osaki CoolGen Project\* is currently conducting a demonstration test of a system that produces CO<sub>2</sub>-free hydrogen in Japan using coal gasification technology from imported coal and uses it to generate electricity. The coal gasification technology demonstrated up to phase 2 will be added and commercialized as a gasifi-

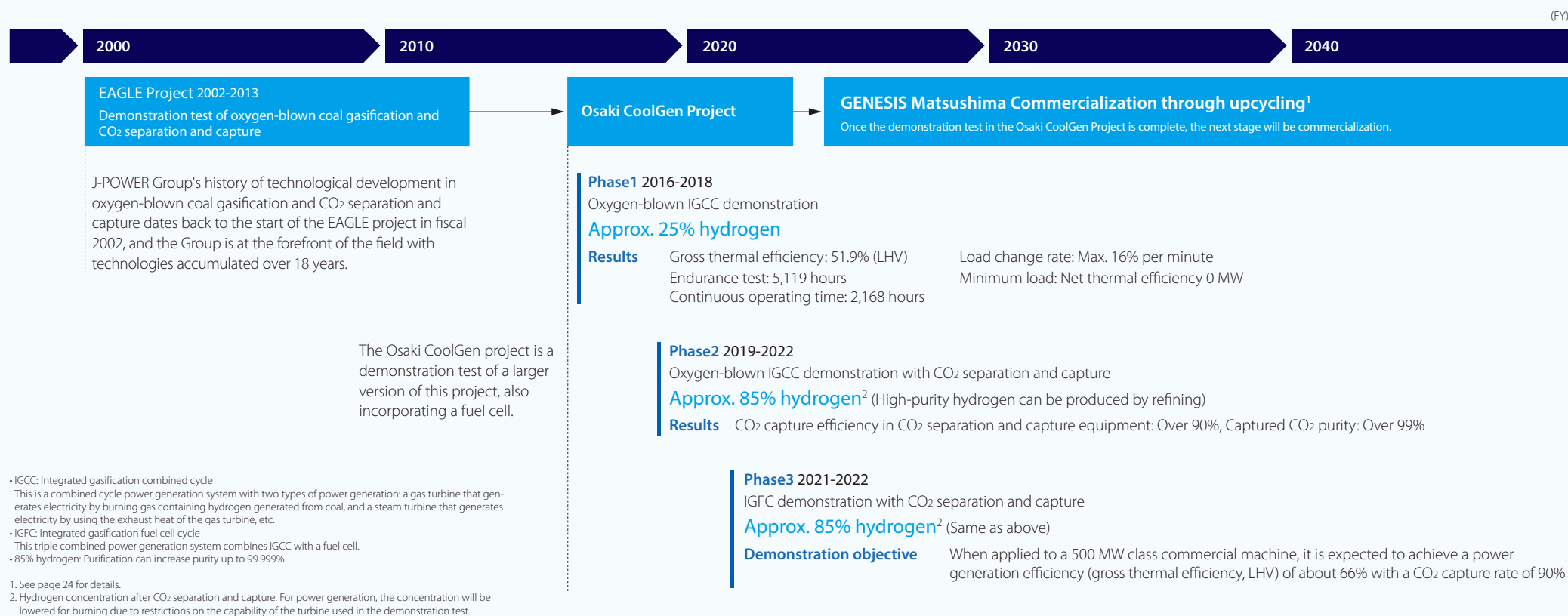
cation system under the GENESIS Matsushima Plan to upcycle existing equipment.

The Osaki CoolGen Project is now in its third phase conducting tests on integrated gasification fuel cell cycles.

\* Jointly conducted with the Chugoku Electric Power Co., Ltd. as a project subsidized by the New Energy and Industrial Technology Development Organization (NEDO), a national research and development organization.



Fuel cells in the Phase 3 demonstration test



## J-POWER “BLUE MISSION 2050”

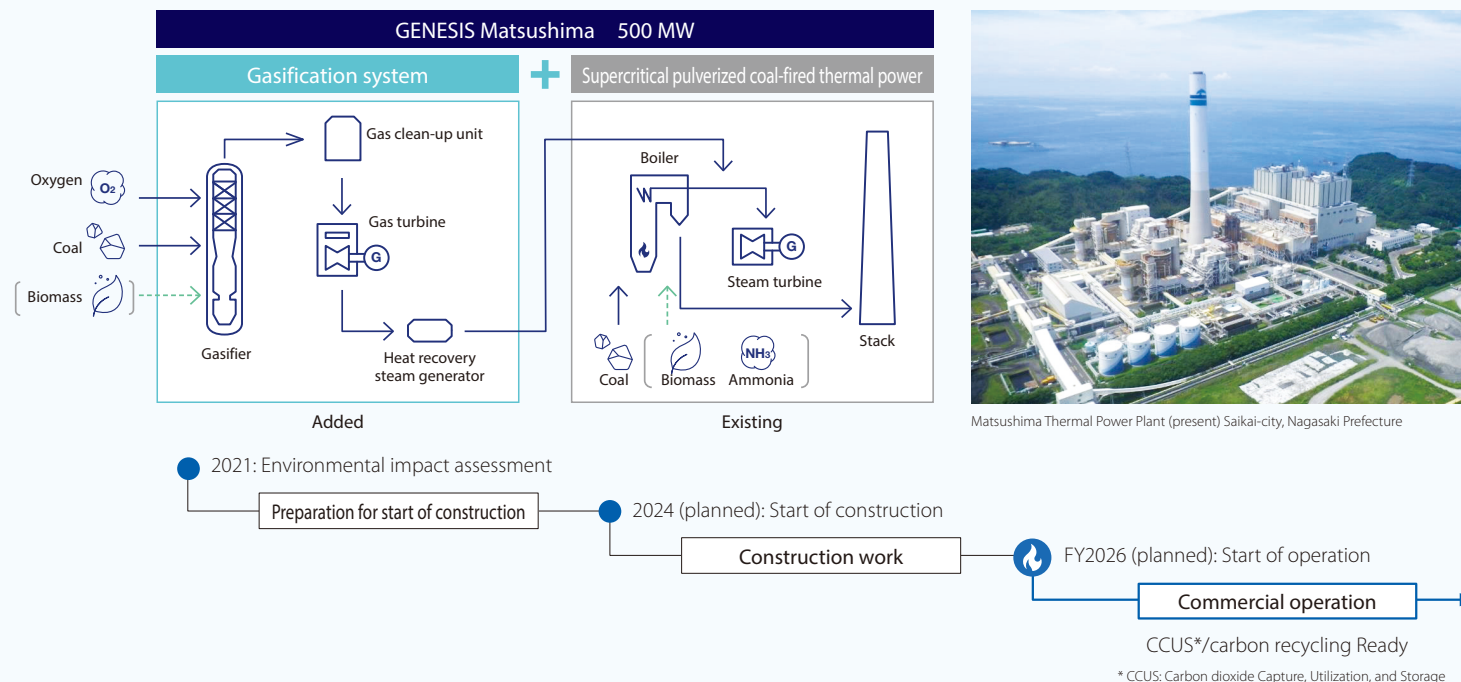


### GENESIS Matsushima

#### Upcycling existing power plants ensures economic efficiency, accelerating hydrogen power generation

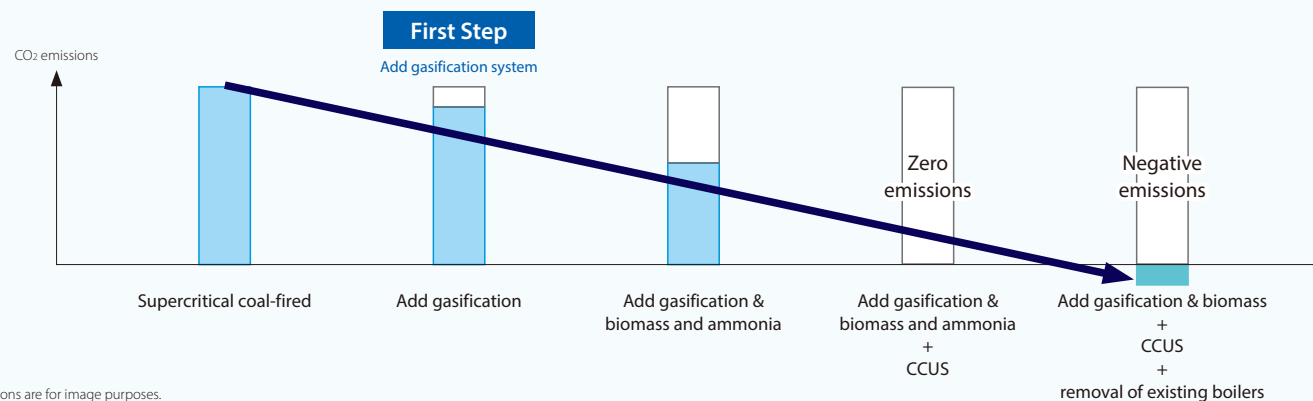
At the Matsushima Thermal Power Plant, which paved the way for the use of imported coal following the oil crisis, we took our first step toward the generation of CO<sub>2</sub>-free hydrogen power. The J-POWER Group aims to enhance economic rationality and achieve the practical application of new technologies at an early stage through upcycling that adds gasification systems and gas turbines to existing facilities in the GENESIS Matsushima Plan.

The GENESIS Matsushima Plan marks the first commercialization of new technologies demonstrated through the Osaki CoolGen project (see p.23). This contributes to reducing environmental impact through improved efficiency and the stabilization of networks by demonstrating high load tracking capability in the Kyushu area, which is rich in renewable energy sources. Mixed combustion of biomass in a gasifier is also possible, enabling further carbon reductions. As achieving CO<sub>2</sub>-free power generation requires capturing generated CO<sub>2</sub>, the GENESIS Matsushima Plan uses a “CCUS/carbon recycling Ready” design that enables compatibility with future equipment.



Matsushima Thermal Power Plant (present) Saikai-city, Nagasaki Prefecture

#### J-POWER GENESIS zero emissions roadmap



\* CO<sub>2</sub> emissions are for image purposes.

## J-POWER “BLUE MISSION 2050”



### Australian Brown Coal Hydrogen Pilot Test Project

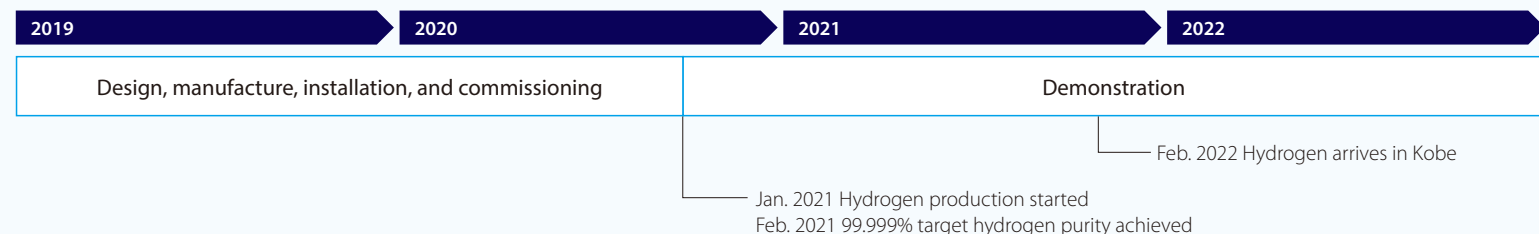
#### Hydrogen produced by J-POWER's gasification technology arrives in Kobe

The J-POWER Group is participating in a pilot test project to construct a supply chain in which hydrogen is produced<sup>1</sup> by gasifying brown coal<sup>2</sup> in Australia before transporting it to Japan. In February 2022, we completed a pilot test in which hydrogen produced from brown coal was transported by sea between Japan and Australia on a hydrogen carrier and unloaded at a testing terminal in Kobe. This test demonstrated that it is possible to build an international liquefied hydrogen supply chain. By demonstrating through tests that hydrogen can be used safely, we have taken another step forward toward the realization of a society in which hydrogen can be used as a natural energy source in the same way as with natural gas.

1. Sponsored by the Australian Federal Government and the Victoria State Government

2. Subsidized by the New Energy and Industrial Technology Development Organization (NEDO), a national research and development organization

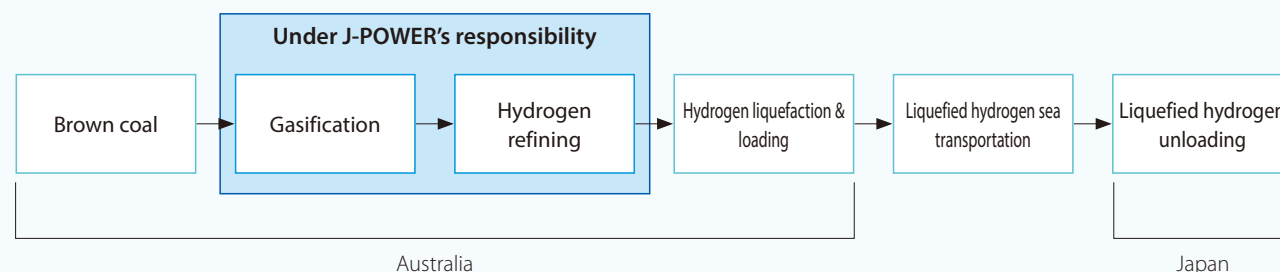
#### Schedule



#### Overall View of the Global Hydrogen Supply Chain

##### Benefits of using brown coal

- Unused
- Abundant
- Cheaper than “standard” coal



Brown coal gasification and hydrogen production facility in Australia  
Photo credit: HySTRA, J-POWER/J-POWER Latrobe Valley



Drones were used to check the quality of the hydrogen produced from brown coal imported from Australia in June 2021



Hydrogen derived from Australian brown coal was used in Toyota's hydrogen-powered car that ran in Round 5 of the Super Taikyu Endurance Race Series at Suzuka in September 2021

Photo credit: Toyota Motor Corporation



## J-POWER "BLUE MISSION 2050"

CO<sub>2</sub>-free Hydrogen Energy

## Carbon Recycling Demonstration Project

The J-POWER Group also aims to achieve CO<sub>2</sub>-free operations by capturing the CO<sub>2</sub> generated in the gasification of coal and utilizing this CO<sub>2</sub> as a resource (carbon recycling). Through the Osaki CoolGen Project, the Group is conducting a demonstration of carbon recycling by liquefying, transporting, and utilizing captured CO<sub>2</sub>.



Osaki CoolGen

Oxygen-blown IGCC with CO<sub>2</sub> separation and capture process demonstration facility

Agricultural use (plant growth acceleration)

## Schedule

(FY)

CO<sub>2</sub> Storage Demonstration and Technology Development Projects

Storing CO<sub>2</sub> in the ground makes it possible to dispose of large quantities of CO<sub>2</sub>. CO<sub>2</sub> storage projects have already been implemented around the world, and the J-POWER Group has also acquired expertise in CO<sub>2</sub> storage through its participation in demonstration tests and technological development.

	Tomakomai CCS Demonstration Project	CTSCo CCS Project in Queensland, Australia
Implemented by	Japan CCS Co., Ltd.	Glencore Plc
Location	Tomakomai, Hokkaido	Near Moonie in Queensland, Australia
CO <sub>2</sub> injection period	April 2016 to November 2019	2025 to 2028
Amount injected	300,000 tons	Up to 110,000 tons
Facility exterior	<p>Tomakomai CCS Demonstration Center Photo credit: Japan CCS Co., Ltd.</p>	<p>CO<sub>2</sub> injection site near Moonie in Queensland, Australia</p>

## Others

- The J-POWER Group and ENEOS Holdings, Inc. are jointly engaged in a large-scale domestic CCS feasibility study (see p.32).

## J-POWER “BLUE MISSION 2050”

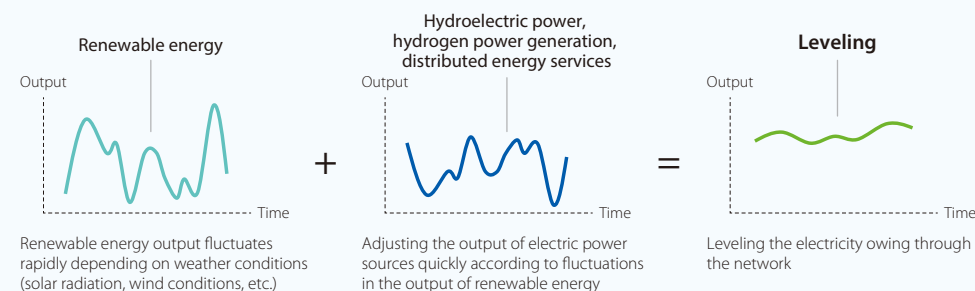


### Power Network

#### Power Network Stabilization

Renewable energy sources such as solar and wind power experience sudden fluctuations in output due to weather conditions (solar radiation, wind conditions, etc.), meaning that introducing a large amount of such sources could lead to an imbalance between power supply and demand on the power network, resulting in large-scale blackouts. Accordingly, there is increasing value in power adjustment capabili-

ties which can rapidly change output and compensate for the output fluctuations of renewable energy sources. The J-POWER Group utilizes hydroelectric power, hydrogen power generation, and distributed energy services which make it possible to swiftly balance output, contributing to the stabilization of Japan's power network.



#### Contribution to Power Network Enhancement

Since suitable areas for renewable energy, such as Hokkaido, the Tohoku region, and the island of Kyushu, are far away from the large cities where power is consumed, enhancing the power network which transmits generated power to consumption areas is essential to the expansion of renewable energy sources. J-POWER Transmission owns and operates transmission and transformation facilities that utilize a wide range of technologies, and possesses the technology and knowledge necessary to enhance the power network, thereby helping to reinforce Japan's power network.

#### Expansion of trunk transmission lines and inter-regional connection lines

Expansion of trunk transmission lines to transmit large amounts of electricity and inter-regional connection lines to transmit electricity across regions

- J-POWER Transmission owns a total of approximately 2,400 km\* of transmission lines throughout Japan.

#### Expansion of DC transmission facilities

Enhancement of DC transmission facilities to transmit electricity generated by renewable energy to power consumption areas

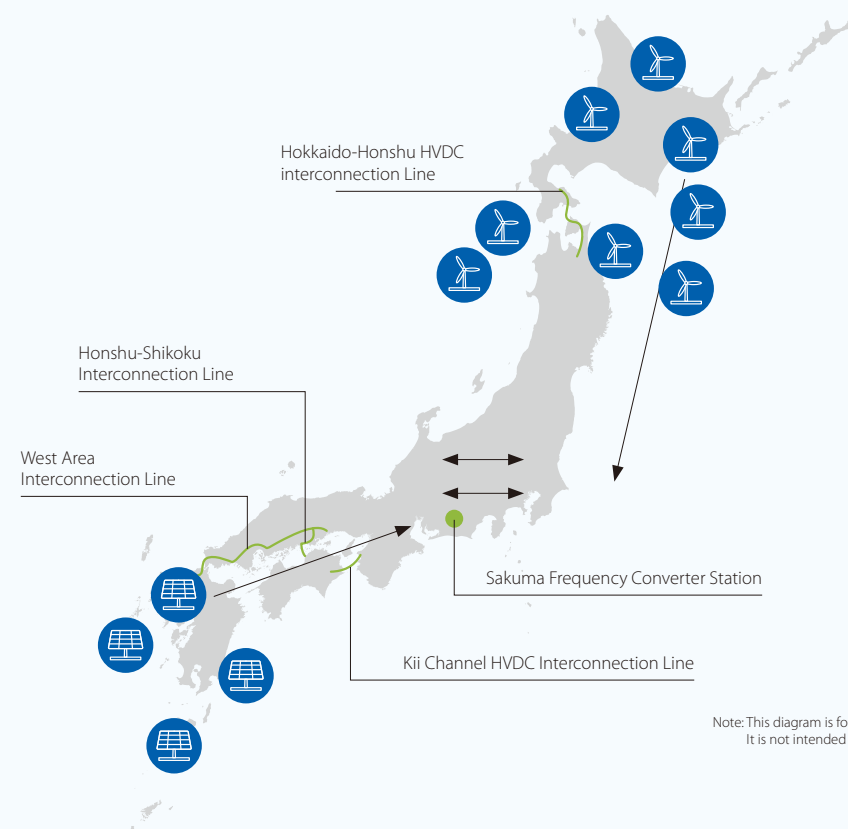
- J-POWER Transmission owns DC interconnection facilities (submarine cables and AC converters) for the Hokkaido-Honshu HVDC Interconnection Line and the Kii Channel HVDC Interconnection Line.
- J-POWER Transmission succeeded in constructing Japan's first ultra-high voltage DC power transmission facility and developed a DC XLPE cable enabling long-haul high-capacity power transmission without using insulating oil.

#### Expansion of frequency converter station

Expansion of frequency converter stations to exchange electricity between eastern Japan (50Hz) and western Japan (60Hz).

- J-POWER Transmission owns the Sakuma Frequency Converter Station.
- Preparations for the construction of the New Sakuma Frequency Converter Station and the replacement and expansion of related transmission lines are underway.

\* Including DC transmission lines



Note: This diagram is for illustrative purposes only.  
It is not intended to represent actual projects.

# Medium-Term Management Plan

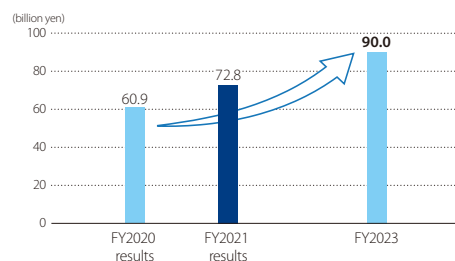
## Management Goals

FY2023 target		FY2025 target	2030 target
Consolidated ordinary income			
	¥90 billion or more		
	FY2021	¥72.8 billion	
Consolidated equity ratio			
	30% or more		
	FY2021	29.9%	
Renewable energy development			
		1,500 MW or more <sup>1</sup>	
		Compared to FY2017	
CO <sub>2</sub> emissions reduction <sup>2</sup>			
		-40% or more	
		Compared to the 3-year average of actual emissions for FY2017-FY2019	

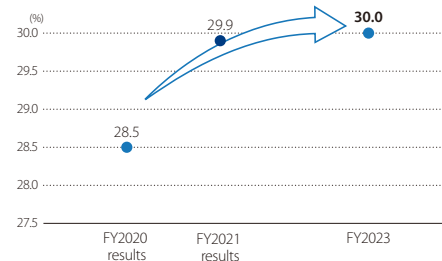
1. This figure does not include offshore wind power projects in the domestic general sea area subject to public offerings. Other than this, an increase of 300 million kWh/year from hydroelectric power is set as a goal in FY2025 (compared with FY2017).  
 2. CO<sub>2</sub> emissions from the J-POWER Group domestic power generation business.

## Progress Toward Medium-Term Management Plan Goals

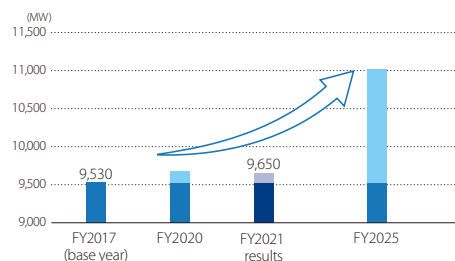
### Consolidated ordinary income: ¥90 billion or more



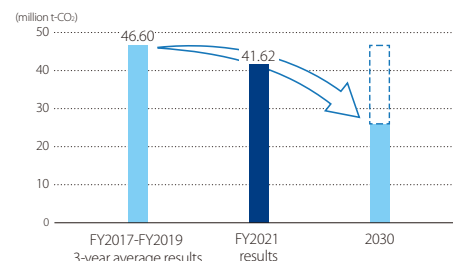
### Consolidated equity ratio: 30% or more



### Renewable energy development 1,500 MW or more



### CO<sub>2</sub> emissions reduction: 40% or more



## The basic concept of shareholder returns

The J-POWER Group will strive to enhance stable ongoing returns to shareholders, taking into account profit level, earnings forecasts, and financial condition (and excluding factors causing short-term profit fluctuations) with the aim of a consolidated payout ratio of around 30%.

### Dividend payments (yen)

	2015	2016	2017	2018	2019	2020	2021	2022 (forecast)
Interim	35	35	35	35	35	35	35	40
Year-end	35	35	40	40	40	40	40	40
Annual dividend	70	70	75	75	75	75	75	80

## FY2021 Highlights

Consolidated ordinary income increased ¥11.9 billion year over year to ¥72.8 billion. In the first half of FY2021, gross profit for the power generation business declined and equipment maintenance costs increased due to the occurrence of several equipment issues at our power plants, along with higher fuel costs due to rising coal prices. However, in the second half of the period, these factors disappeared and we made changes to how we procure fuel, which included hedging risk. As a result, gross profit for this business recovered. Profits were further boosted by an expansion of our mining interests in Australia. We plan to increase our dividend to ¥5 per share in the first half of FY2022 in accordance with the Policy on Shareholder Returns.

Our consolidated equity ratio stood at 29.9%. Although liabilities increased from ¥113.7 billion at the end of the previous fiscal year to ¥2,102 billion, net assets rose ¥110.4 billion to ¥964.1 billion partly as a result of a positive net income attributable to owners of the parent and increases in deferred gains or losses on hedges and foreign currency translation adjustments.

As a result of numerous regular inspections and multiple power plant shutdowns due to equipment trouble in FY2021, CO<sub>2</sub> emissions dropped by 4.98 million t CO<sub>2</sub> to 41.62 million t CO<sub>2</sub> compared to base year emissions.

Regarding renewable energy development, our generation capacity increased 120 MW over the base year mainly due to our participation in solar and other renewable energy projects through Genex in Australia.



## Medium-Term Management Plan

### Action 1

#### Acceleration of the development of CO<sub>2</sub>-free power sources

##### ■ Global Renewable Energy Development

We are prioritizing investment in renewable energy development, aiming to achieve a generation capacity of at least 1,500 MW<sup>1</sup> by FY2025.

Total investment in renewable energy development between FY2022 and FY2025 will be ¥300 billion.

376 MW<sup>1, 2</sup>

Operations begun



Triton Knoll Offshore Wind Farm (The United Kingdom)

148 MW<sup>2, 3</sup>

Construction begun

FY2021



Esashi Wind Farm

+15 MW



K2-Hydro in Australia

+19 MW

Total



90 MW

Onshore wind



41 MW

Hydro



17 MW

Geothermal

Approx. 1,100 MW<sup>2, 3</sup>

Studies, etc. begun

Total



Up to approx. 900 MW

Onshore wind



88 MW + Formed a consortium for general sea area survey

Offshore wind



158 MW

Solar

##### ■ Status of the Ohma Nuclear Power Plant Review

For a compliance review by the Nuclear Regulation Authority, we are faithfully and properly addressing matters concerning standard seismic motion, the geology and geological structure of the site, and standard tsunami.

We will tirelessly continue to pursue greater safety.

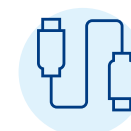
##### ■ Contract to conduct research business for HVDC power transmission systems<sup>4</sup>

We have agreed to provide research services to NEDO<sup>5</sup> for HVDC power transmission systems, which are essential for proliferating offshore wind power.

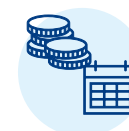
##### ■ Study on building and running HVDC power transmission systems for offshore wind and other power sources<sup>6</sup>



Detailed route study



Researching necessary equipment, etc.



Researching costs and construction period



Overseas study

1. Compared to FY2017

2. Owned power generation capacity as of April 30, 2022; for TBD capacity, projected maximum capacity is shown

3. Excludes renewals that do not increase generation output with generation capacity increases

4. Initiatives of J-POWER Transmission Network Co., Ltd.

5. New Energy and Industrial Technology Development Organization (NEDO)

6. Joint contracting with the Promotion and Research Institute for Ocean Economics, and Eukote Energy LLC

## Medium-Term Management Plan

### Action 2

#### New value creation utilizing existing assets (upcycling)

##### ■ Decision made to conduct the NEXUS Sakuma Project

The Sakuma Hydropower Plant was built to alleviate a power shortage in Japan after World War II, and has contributed to a stable supply of electricity for over 60 years.

Renovations to upgrade the plant with state-of-the-art technologies and transform it into a next-generation hydroelectric power facility are slated for the back half of the 2020s. (see p. 19)

##### ■ Promotion of the GENESIS Matsushima Plan

We have begun environmental assessment procedures aimed at upcycling GENESIS Matsushima, the first step toward realizing CO<sub>2</sub>-free hydrogen energy. (see p. 24)

##### ■ Efforts toward reducing CO<sub>2</sub> emissions

###### Expanding biomass deployment

We have signed a memorandum with U.S.-based Enviva Inc.<sup>1</sup> and together have begun to explore a supply chain for the large-scale (potentially up to 5 million tons annually) and long-term supply of wood pellet fuel.

### Action 3

#### Initiatives toward achieving CO<sub>2</sub>-free hydrogen

##### ■ Australian Brown Coal Hydrogen Pilot Test Project

We have completed a pilot project to build a supply chain for manufacturing and transporting hydrogen via brown coal gasification, and will now begin looking at steps to achieve commercialization. (see p. 25)

##### ■ Pursuing the possibilities of green hydrogen

###### Jointly exploring green ammonia production

We have signed a memorandum with Australia-based Origin Energy Limited<sup>2</sup> to jointly explore the production of green ammonia using hydroelectric and wind power in the Australian state of Tasmania, as well as the export of the ammonia to Japan.

###### Jointly exploring negative-emission hydrogen production

Together with ENEOS Holdings, Inc., we have begun jointly exploring the production of negative-emission hydrogen via biomass gasification and CCUS<sup>3</sup>.

###### Joining AquaVentus

To enhance our expertise in the production and transport of green hydrogen using offshore wind turbines, we have joined the Germany-based AquaVentus green hydrogen research initiative.

A number of projects are planned in a value chain that extends from offshore hydrogen production to consumption, and J-POWER aims to participate in these projects as well.

1. Enviva Inc. is a leading global supplier of woody biomass energy

2. Origin Energy Limited is a diversified energy company based in Australia

3. CO<sub>2</sub> separation, capture, effective use, and storage

## Medium-Term Management Plan

### Action 4

#### Strengthening our Business Base

##### Steadily Expanding our Overseas Business Base

Along with steadily advancing large projects, we have been successful in strengthening our business base and diversifying our businesses in our three core regions.

- Operations begun
- New operations begun and acquired
- Construction begun
- Studies, etc. begun

#### Other regions

**New** 214 MW

#### Large-scale project

- Launched operations at Triton Knoll  
Launched operations in April 2022



#### Main target areas Australia

**New** 8 MW **Construction begun** 19 MW

- Acquired equity stake in Genex\*  
Acquired a powerful partner for expanding renewable energy development

#### Main target areas The Asian region

**Operations begun** 4,616 MW

**New** 0.5 MW

**Construction begun** 680 MW

- Launched rooftop solar business  
Leveraged and strengthened our business base in Thailand
- Large-scale project
- Progress of construction in Central Java  
Operations slated to start in the second half of 2022

#### Main target areas The United States

**Operations begun** 1,899 MW

**New** 1,200 MW

#### Large-scale project

- Launched Jackson Generation project operations  
Launched operations in May 2022
- Completed the Wharton Development Project  
Acquired significant developer interests



Jackson Generation Power Plant  
(The United States)

\* Genex Power Ltd, an Australian renewable energy company



## Medium-Term Management Plan

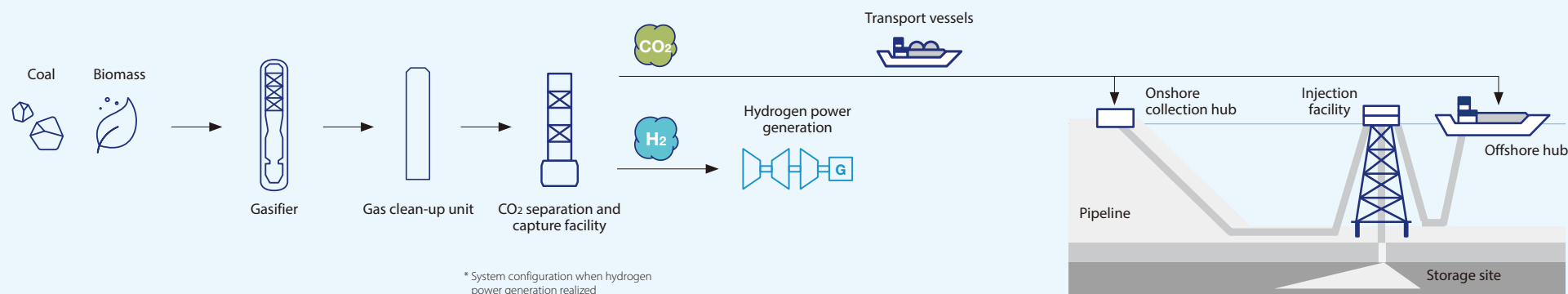
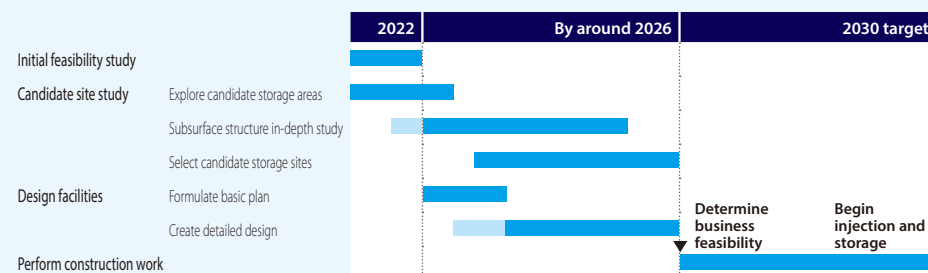


### CO<sub>2</sub>-free hydrogen power generation initiatives

#### CO<sub>2</sub> injection and storage efforts

With the goal of reducing CO<sub>2</sub> emissions from the use of fossil fuels, the J-POWER Group is working with ENEOS Holdings, Inc. to conduct a feasibility study for large-scale CO<sub>2</sub> separation/ capture, and storage (CCS) in Japan. Going forward, we will coordinate with various businesses actively pursuing carbon neutrality to be the first in Japan to implement a full-scale CCS project before 2030. We will also significantly reduce CO<sub>2</sub> emissions from J-POWER Group's coal-fired power plants and ENEOS' oil refineries and other facilities. Through these efforts, we aim to contribute to achieving our national goal of reducing greenhouse gas emissions.

#### Aiming to be an early contributor to reducing Japan's CO<sub>2</sub> emissions, starting in 2030



#### CO<sub>2</sub> capture Ready

##### J-POWER GENESIS and CCS in Japan

The J-POWER GENESIS system is capable of utilizing proven CO<sub>2</sub> separation and capture technologies. Pairing these with new technologies, we will expand its capabilities and achieve CO<sub>2</sub>-free hydrogen power generation.

##### Separation and capture of CO<sub>2</sub> released through coal-fired power generation

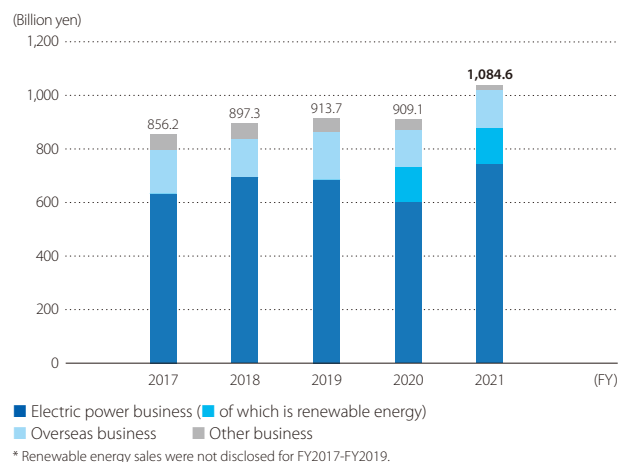
- Pair gasification technologies with CO<sub>2</sub> separation and capture technologies to achieve CO<sub>2</sub>-free hydrogen power generation
- May also separate and capture CO<sub>2</sub> from gas released through incineration at existing coal-fired plants

# Financial and Non-Financial Highlights

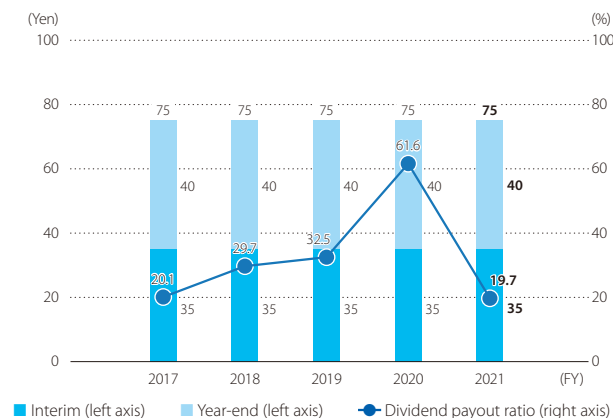
These are key indicators of the Company's financial and non-financial performance.

## Financial Highlights

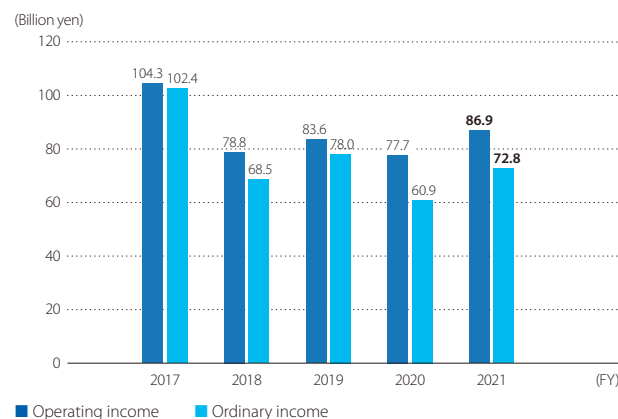
### Consolidated Operating Revenue



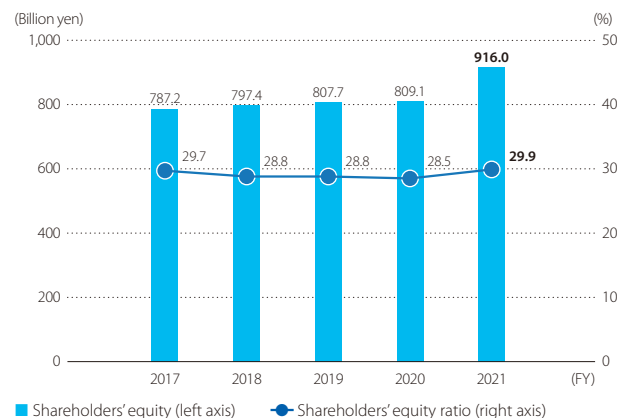
### Dividends per Share and Payout Ratio



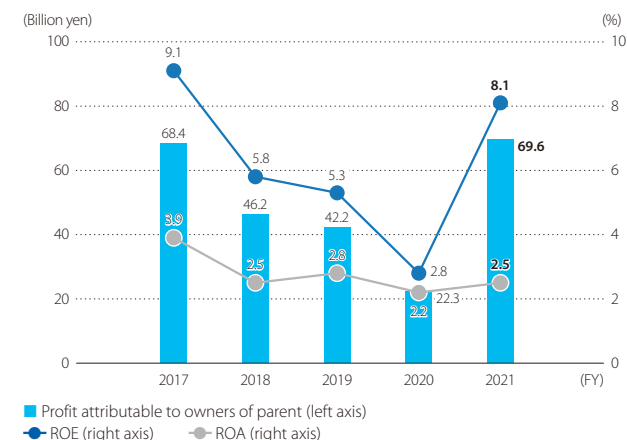
### Consolidated Operating Income and Ordinary Income



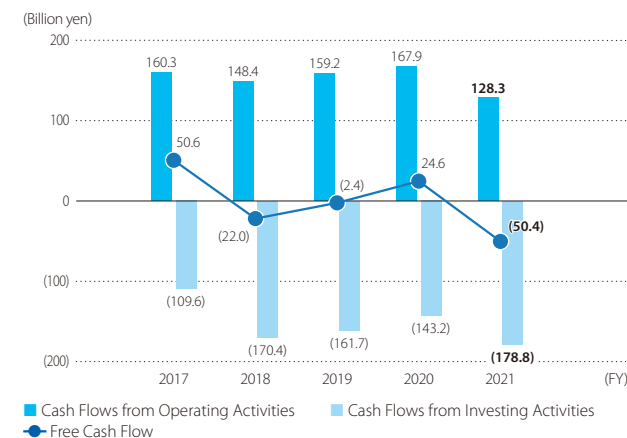
### Shareholders' Equity and Shareholders' Equity Ratio



### ROA, ROE, and Profit Attributable to Owners of Parent



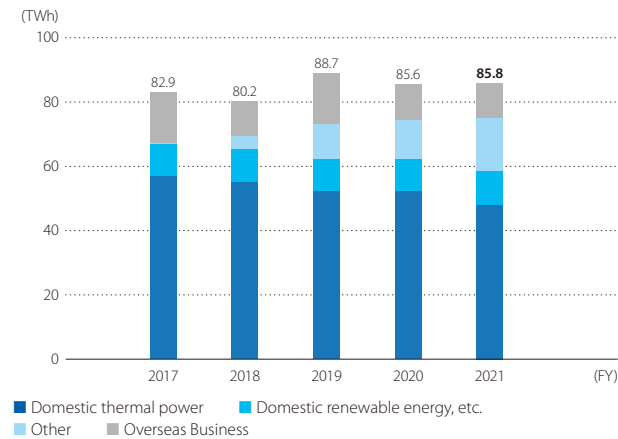
### Cash Flow



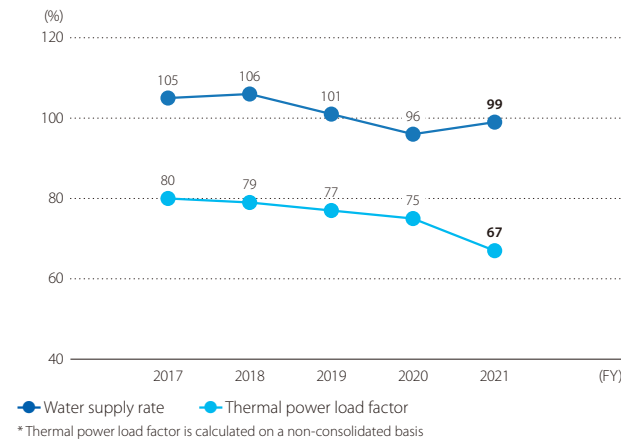
## Financial and Non-Financial Highlights

### Non-Financial Highlights

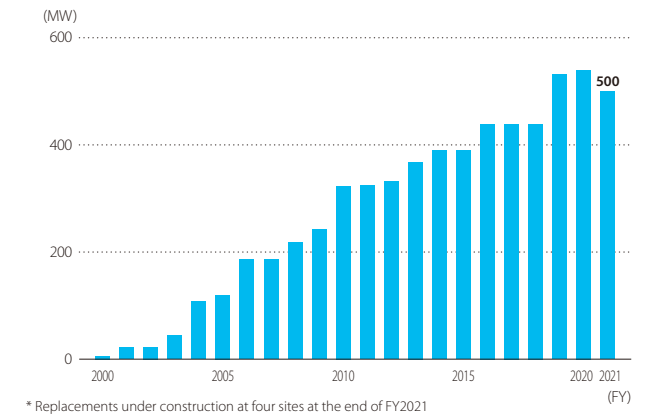
#### Electricity Sales Volume



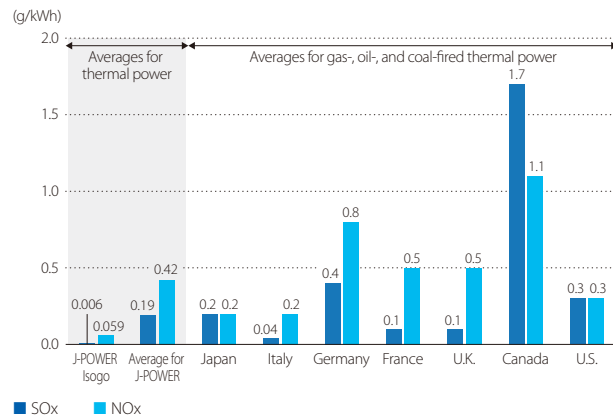
#### Water Supply Rate/Thermal Power Load Factor\*



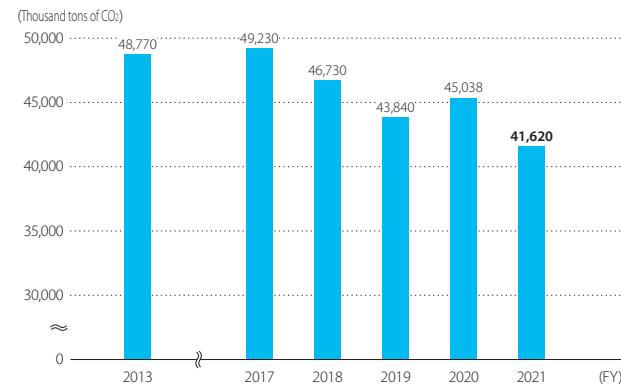
#### Change in Domestic Wind Power Generation Capacity



#### International Comparison of SOx and NOx Emissions Intensity for Thermal Power Generation

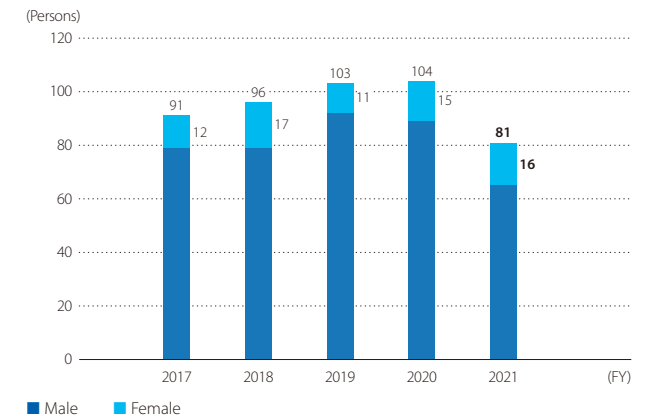


#### CO<sub>2</sub> emissions from Domestic Electric Power Business



\* Aggregates CO<sub>2</sub> emissions generated from the Group's domestic power plants. Subsidiaries and affiliates are aggregated according to their investment ratios

#### J-POWER's New Graduates Hired





# J-POWER Group Businesses

## Business Overview by Segment

The J-POWER Group primarily focuses its business operations on the stable supply of power through the construction, operation, and maintenance of power generation facilities; transmission services via electric power transmission and substation facilities, and overseas businesses. Furthermore, the Group is developing its business, including those related to the above, in four segments.

### Electric Power Business

The Group engages in power generation, transmission, and electric power retailing businesses domestically in Japan.

Operating revenue **¥878.8 billion**  
Segment income **¥26.6 billion**

### Electric Power-Related Business

The Group engages in businesses which support the smooth and efficient execution of the electric power business, including the maintenance of electric power facilities, ownership of interests in coal mines, and the importing and transportation of coal.

Operating revenue **¥243.9 billion**  
Segment income **¥25.8 billion**

### Overseas Business

The Group engages in power generation and consulting businesses overseas.

Operating revenue **¥145.1 billion**  
Segment income **¥22.0 billion**

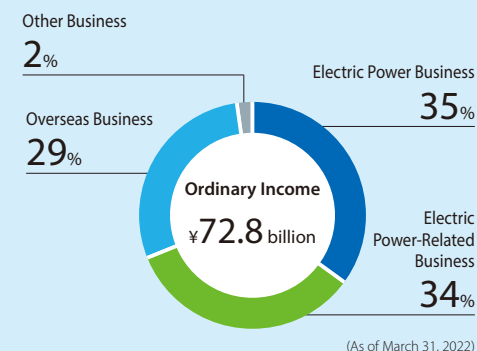
### Other Business

The Group engages in businesses, such as in telecommunications, the environment, and in sales of coal, which enable it to utilize its management resources and know-how.

Operating revenue **¥21.0 billion**  
Segment income **¥1.2 billion**

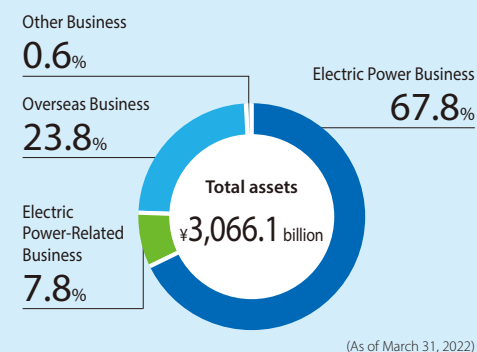
## J-POWER Data

### J-POWER Group Income Structure (FY2021)



Note: The percentage of each segment's income is calculated on the simple aggregate total of the income of the four segments before adjustments

### J-POWER Group Asset Structure (FY2021)



Note: The percentage of each segment's assets is calculated on the simple aggregate total of the assets of the four segments before adjustments

### Power Generation Capacity in Operation (Owned Capacity Basis)

(As of March 31, 2022)

Domestic	95 locations	18,284 MW
Hydroelectric power	60 locations	8,560 MW
Thermal power*	13 locations	9,200 MW
Wind power	21 locations	500 MW
Geothermal power	1 location	23 MW

\* Including demonstration test facility (Osaki CoolGen)

### Transmission and Transformation Facilities

(As of March 31, 2022)

Transmission lines	2,410.1km
AC power transmission lines	2,142.9km
DC power transmission lines	267.2km
Substations	4 locations 4,301 MVA
Frequency converter station	1 location 300 MW
AC/DC converter stations	4 locations 2,000 MW

### Overseas Consulting Business

(As of March 31, 2022)

64 countries	374 projects
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### Overseas Power Generation Business

(As of March 31, 2022)

In operation	5 countries 33 projects	6,523 MW owned capacity
Of which: Majority owned projects	1 country 10 projects	3,991 MW owned capacity
Under construction/development	5 countries 10 projects	2,419 MW owned capacity

\* Sales and segment profit figures shown are for FY2021

\* As net sales include internal group sales, the total amount of net sales for each segment differs from the consolidated net sales of 1,084.6 billion yen

\* Segment income is ordinary income. The total amount of each segment's income differs from consolidated ordinary income of 72.8 billion yen due to adjustments to eliminate inter-segment transactions, etc.

## J-POWER Group Businesses

### Electric Power Business

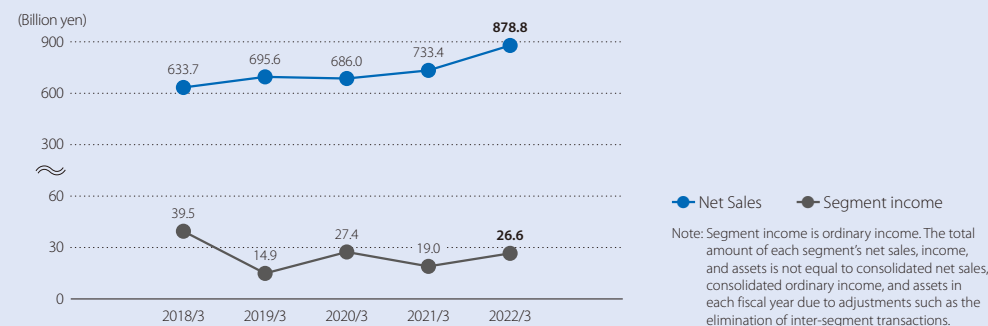
#### Social Issues

- Stable power supply, climate change
- Energy security
- Building wide-area power networks in Japan
- Atmospheric pollution and other local environmental issues
- Economic efficiency

#### Value that the J-POWER Group Provides

- Economical and stable supply of power via CO<sub>2</sub>-free power and high-efficiency thermal power
- Contributes to ensuring energy security and avoiding regional environmental issues such as air pollution
- Contributes to wide-area power networks through means such as cross-regional inter-connection facilities

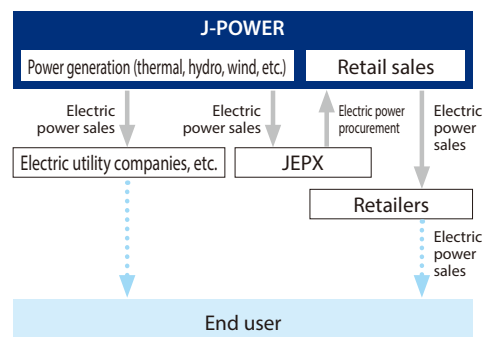
#### Net Sales / Segment income



#### Power Generation Business

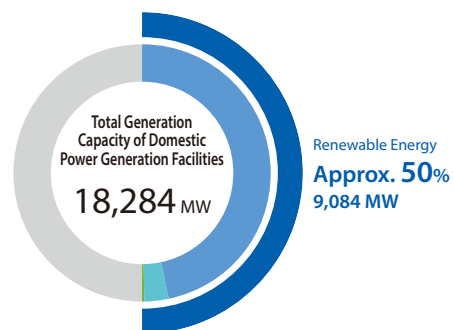
J-POWER generates electricity from a variety of power sources and sells it to electric utility companies and the Japan Electric Power Exchange (JEPX) to ensure a stable supply of electricity in Japan. J-POWER also sells electricity procured from JEPX to retail electricity suppliers.

#### Flow of electricity sales



#### Renewable Energy

As one of Japan's leading renewable energy providers, J-POWER leverages its extensive knowledge and technologies built up over the years to maximize value at an increasing pace through new development and upcycling of existing hydroelectric and wind power plants.



(As of March 31, 2022)

#### Hydroelectric Power

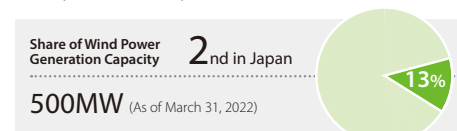
Over the past 70 years or so, the J-POWER Group has engaged in the development and operation of hydroelectric power plants. Since hydroelectric power can be started quickly and its output can be adjusted, it plays an important role as a source of regulated power. With no available land left for large-scale developments in Japan, the Group is engaged in increasing the amount of power through the development of small hydroelectric power plants and the comprehensive renewal of main facilities.



#### Wind Power

The J-POWER Group began engaging in the wind power generation business early in Japan, and even now, it is engaged in many development projects while also having started replacing facilities at its initial operation sites. In terms of offshore

wind power, J-POWER has gained expertise through its participation in the Triton Knoll Off-shore Wind Farm project in the United Kingdom which started commercial operation this year. The Group is also working on the Hibikinada Offshore Wind Farm Project while conducting surveys at multiple sites in Japan.



#### Geothermal Power

J-POWER is generating geothermal power on a large-scale at the Wasabizawa Geothermal Power Plant\* in Akita Prefecture which boasts one of the largest generation capacities in Japan. Currently, the Group is engaging in renewal works on the Onikobe Geothermal Power Plant which has been operating for over 40 years since 1975, the development of the new Appi Geothermal Power Plant\*, and a survey at the Takahinatayama site.

\* A joint venture with Mitsubishi Materials Corporation and MITSUBISHI GAS CHEMICAL COMPANY, INC.

## J-POWER Group Businesses

### Electric Power Business

#### Thermal Power

**Supporting the stable supply of energy as a baseload power source**

Since coal can be found around the world, and the politically stable countries of Australia and Indonesia are its major exporters in Asia, the geopolitical risk level is considered low. And as coal is easy to store, it is an important resource for the energy security of Japan, a country with few energy resources. The J-POWER Group's coal-fired thermal power plants use advanced technical capabilities to limit the emission of atmospheric pollutants such as SOx and NOx. In addition, the adoption of technologies which offer the maximum efficiency at the time of construction, as well as mixed combustion with biomass fuels, reduces the amount of CO<sub>2</sub> emitted while contributing to the stable supply of power as a baseload power source. Furthermore, by upcycling our existing coal-fired power plants, we aim to convert to hydrogen power generation. The first step toward this goal is our work in Nagasaki Prefecture on the GENESIS Matsushima Plan. (See p.24)

#### Nuclear Power

**A CO<sub>2</sub>-free power source capable of stably producing large amounts of power**

The J-POWER Group is implementing the Ohma Nuclear Power Plant Project. See p.20 for more information.

#### Electric Power Retailing Business

In addition to wholesaling the electricity it generates, the J-POWER Group works with partner companies to engage in the retail sale of electricity to end users, and the sale of 100% renewable electricity as part of the RE100 initiative. The Group is also rolling out distributed energy services such as virtual power plants (VPPs) that utilize resources including generators owned by end users and introducing large-capacity storage battery systems.

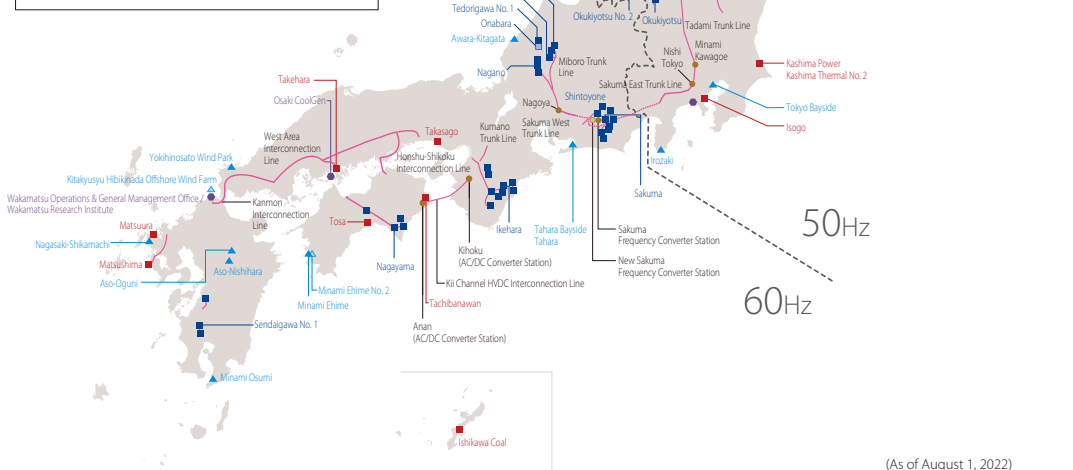
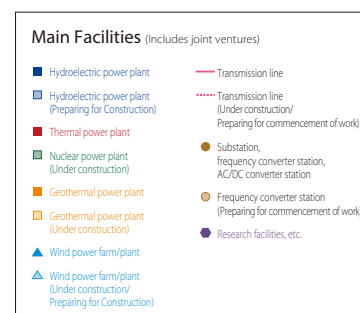
#### Transmission Business

J-POWER Transmission Network Co., Ltd. (J-POWER Transmission) is a company which is independent of the J-POWER Group's power generation and retailing divisions, handling its transmission business from a neutral position. J-POWER Transmission owns nine substations and converter stations, and approximately 2,400 km of transmission lines across Japan. J-POWER Transmission interconnects regions and fulfills a major role in the cross-regional operation of Japan's overall power grid.

In addition, as per a plan formulated by the Organization for Cross-regional Coordination of Transmission Operators, J-POWER Transmission is moving ahead with preparations for the construction of the Sakuma Frequency Converter Station, which connects the different frequencies of eastern Japan (50 Hz) and western Japan (60 Hz), to increase its converter capabilities from 300 MW to 600 MW. Construction is scheduled to be completed in 2027.

#### Submarine DC transmission lines

Expectations are on the rise for the introduction of submarine DC transmission lines to transport more of the renewable energy that will be created in the future to the larger cities where it is used. J-POWER Transmission has a track record of laying and operating the Kii Channel and the Hokkaido-Honshu HVDC Interconnection Lines with extensive knowledge on the construction and operation of submarine DC transmission lines.





## J-POWER Group Businesses

### Overseas Business

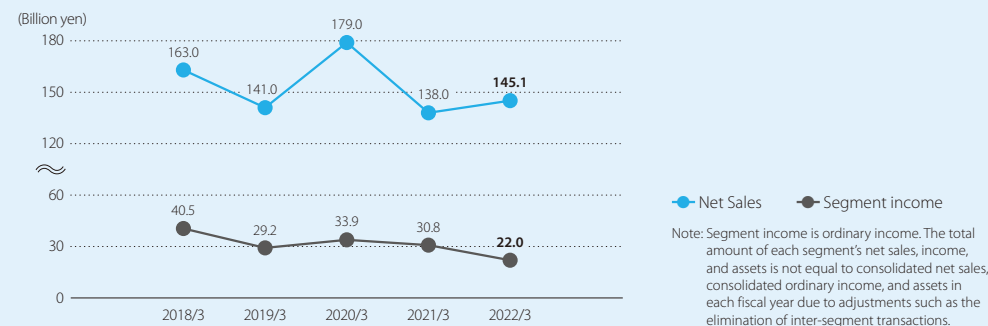
#### Social Issues

- Stable power supply overseas
- Climate change
- Atmospheric pollution and other local environmental issues

#### Value that the J-POWER Group Provides

- Contributes to stable power supply overseas through the overseas consulting business and power plant development
- Contributes to reducing CO<sub>2</sub> emissions and solving environmental issues through renewable energy development and the construction of environmentally friendly, cutting-edge high-efficiency thermal power plants overseas

#### Net Sales / Segment income



#### Overseas Consulting Business

Leveraging the experience and technical prowess acquired through its domestic electric power business, the J-POWER Group engages in its consulting business in places around the world, providing consulting services on things such as developing energy resources, basic research regarding matters such as electric power transmission and substation facilities, feasibility, design, construction supervision, and environmental technology transfers. Since its first project in 1962, the Group has conducted 374 projects in 64 countries and regions.

#### Overseas Power Generation Business

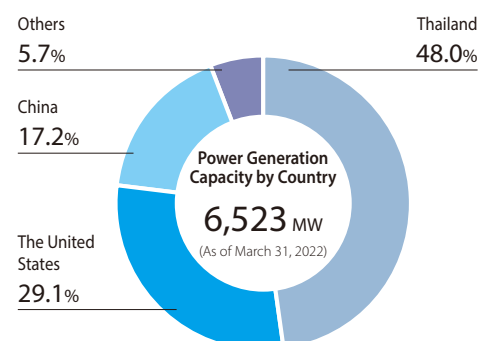
The J-POWER Group engages in its overseas power generation business leveraging decades of experience, trust, and networks cultivated through its overseas consulting business.

When the Group first began its overseas

power generation business in 1997, it primarily participated in the construction of power plants or plant operations through relatively small-scale investment. Since that time, however, the Group has gradually expanded this business, shifting from acquiring interests in existing high-quality projects to greenfield development, mainly in Thailand, the United States, China, and other Asian countries. In addition, the Group has recently participated in projects from the initial stage of development with the aim of expanding development opportunities and securing profits as project developer. Taking part in greenfield projects as well as projects from the initial stage of development carries with it comparatively high risk; profitability commensurate with this risk, however, can be expected. Through its advanced technical and project organization capabilities, the J-POWER Group aims to realize high profitability while minimizing risk.

The Central Java Coal-fired Power Plant in Indonesia and the Jackson Generation Power Plant in the United States are greenfield projects which contribute to strengthening the Group's profit base.

#### Power Generation Capacity by Country



#### Renewable Energy Projects

The J-POWER Group is a renewable energy front runner with one of the largest installed capacities in Japan centered on hydroelectric and wind power, and in recent years we have been focused on renewables development projects overseas.

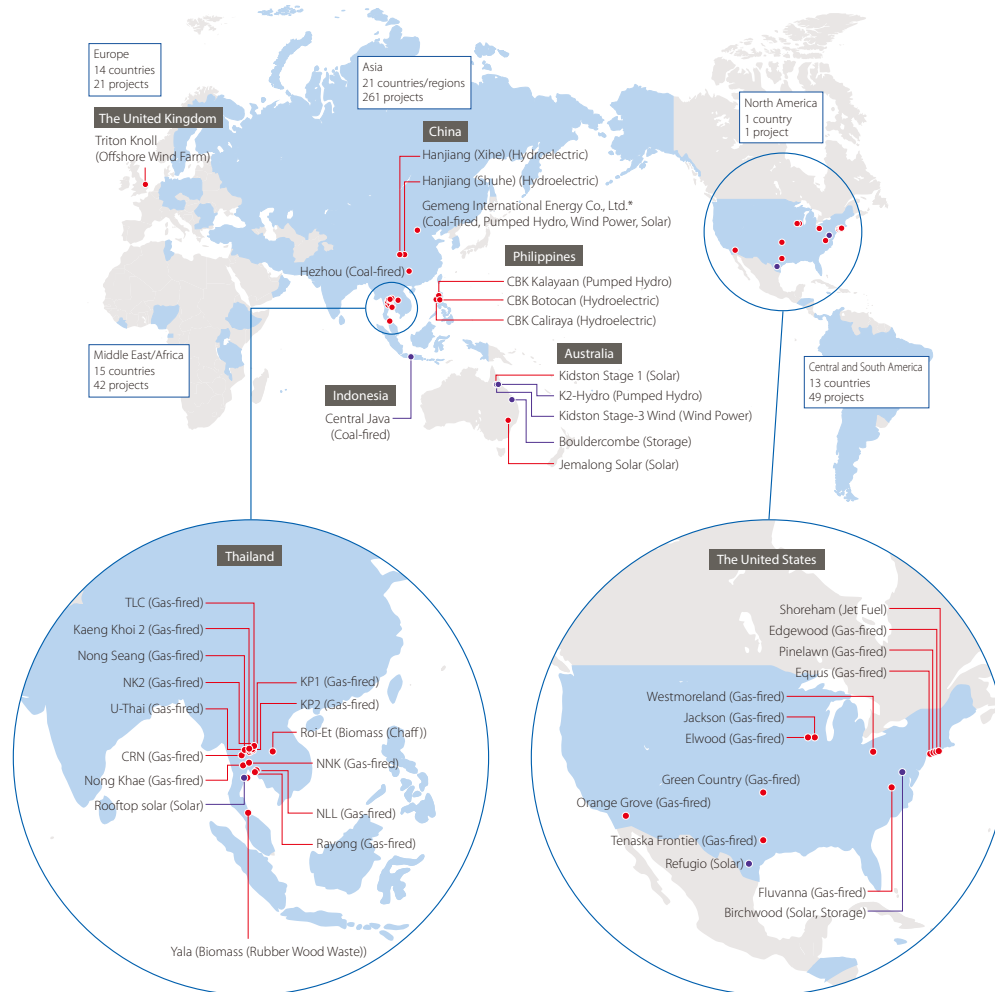
The Triton Knoll Offshore Wind Farm project, which we had been involved with from the construction planning stage, began commercial operation in April 2022. In the U.S., we have been contributing to the expansion of renewable energy through our participation in developing a solar power project since 2020. Meanwhile, we are developing a pumped storage and wind power project together with Genex Power Limited in Australia.

## J-POWER Group Businesses

### Overseas Business

#### Overseas Power Generation Business (As of June 30, 2022)

- In operation 35 projects
- Under construction 8 projects



\* Gemeng International Energy Co., Ltd. is an electric power company that owns 16 power generation companies

#### Case Study: Overseas Consulting Business

##### Contributing to the development of renewable energy around the world as a technology expert

Starting with the development of large-scale hydroelectric power plants after World War II, J-POWER has contributed to the development of renewable energy around the world.

One of the services we have provided is consulting on the construction of the Upper Kotmale Hydroelectric Power Station in Sri Lanka, which we received the order for in 2003. At that time, demand for electricity rapidly increased along with economic development in the country, and the supply and demand of electricity continued to tighten. Sri Lanka is not blessed with an abundance of fossil fuels, but it is rich in hydropower resources. As such, expectations were extremely high for this project to secure a new power source by making use of the island's indigenous resources.

Our consulting services range from power plant design and contractor bidding, to construction quality, budget, and process supervision after construction began, as well as health, safety, and environmental management. J-POWER has dispatched employees skilled in various technologies.



Construction of the Upper Kotmale Hydro Power Plant

And as with our own domestic business, it is also an important mission of ours to build power plants that are in harmony with the environment. The Upper Kotmale Hydro Power Plant was located in one of Sri Lanka's best-known tourism sites. Downstream of the dam is a waterfall known as St. Clair's Falls, and to preserve views of the waterfall as much as possible, dam construction focused on achieving harmony with the local community through exhaustive analyzing and adjusting of flow times and flow rates. The power station started operation in 2012 and is still responsible for about 7.5% of Sri Lanka's electricity output in terms of generation capacity, contributing to the stable supply of electricity.

A J-POWER employee who supported this project, Katsu Hagiwara (Engineering Office, International Business Development Department), is currently involved in a large-scale pumped-storage power generation project (K2 Hydro) that we are participating in through our Australian partner company, Genex. Based on the knowledge gained through consulting projects in each country, we are taking on the challenge of developing new renewable energies as technological experts.



## J-POWER Group Businesses

### Electric Power-Related Business

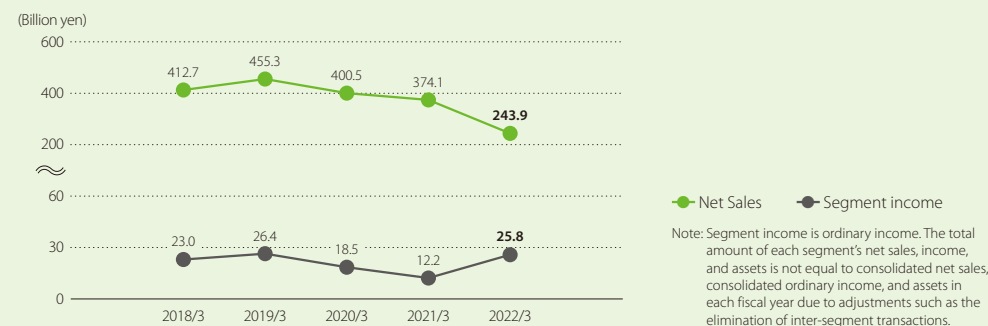
#### Social Issues

- Stable power supply
- Energy security

#### Value that the J-POWER Group Provides

- Contributes to the stable operation of electric power facilities, supported by long-term operation and maintenance technologies
- Conducts stable long-term fuel procurement based on diversified Sources

#### Net Sales / Segment income

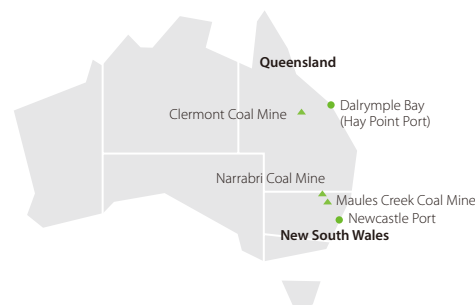


#### Electric Power Facilities Maintenance

The J-POWER Group has established maintenance subsidiaries at each of its hydroelectric, transmission, wind power, and thermal power facilities, and engages in consistent and efficient maintenance of its power facilities.

#### Coal Procurement

In order to stably procure coal as a fuel for thermal power plants in long term, the J-POWER Group owns interests in three coal mines in Australia.



#### Biomass Production

The J-POWER Group is working to reduce CO<sub>2</sub> emissions through the mixed combustion of biomass fuel at coal-fired thermal power plants, and is working to further expand the use of biomass, including 10% mixed combustion at Takehara Thermal Power Plant New Unit No. 1 from 2022. From the perspective of sustainably and stably procuring biomass fuel, the Group is also engaged in the business of producing sustainable biomass fuels such as wood fuel employing unused forest residues.



Wood pellets

#### Coal Mining Projects (as of December 31, 2021)

Coal Mine	Location	Outport	2021 Sales Volume	Vested Interest	Coal Production Start
Clermont	Queensland, Australia	Dalrymple Bay (Hay Point Port)	10.38 million tons	22.2%	2010
Narrabri	New South Wales, Australia	Newcastle Port	3.38 million tons	7.5%	2012
Maules Creek	New South Wales, Australia	Newcastle Port	9.37 million tons	10%	2014

#### Wood biomass fuel production business (as of March 31, 2022)

Project Name	Location	Project Overview	Equity Share	Operation Start
Miyazaki Wood Pellet	Kobayashi City, Miyazaki Prefecture	Business of an integrated system from manufacturing wood pellets from unused forest residues, including construction of manufacturing facilities, up to the use of pellets for mixed combustion in J-POWER's coal-fired thermal power plants (Pellet production capacity: 25,000 tons/year)	98.3%	2011

## J-POWER Group Businesses

### Other Business

#### Social Issues

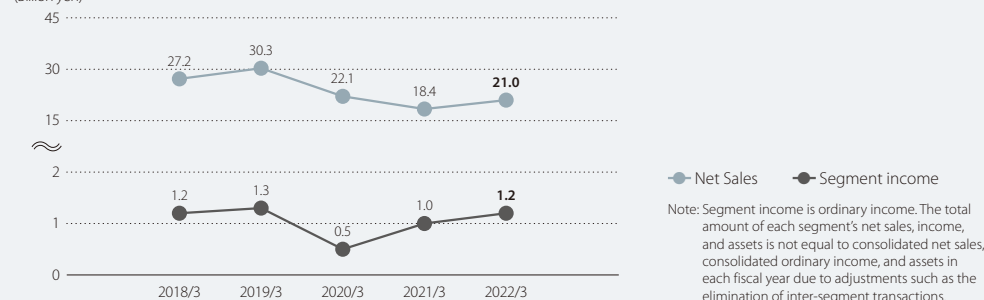
- Climate change
- Local environmental issues

#### Value that the J-POWER Group Provides

- Contributes to reducing CO<sub>2</sub> emissions through biomass fuel production business

#### Net Sales / Segment income

(Billion yen)



### ■ Biocoal Business

J-POWER is carrying out an integrated system from the construction of a facility to convert sewage sludge into fuel to the use of mixed combustion in J-POWER's coal-fired thermal power plants and other facilities. By converting

sewage sludge into solid fuel and burning it at coal-fired thermal power plants, we are contributing to the recycling of sewage sludge and the reduction of CO<sub>2</sub> emissions.

#### ■ Biocoal Business & Recycled Power Business

Project Name	Location	Project Overview	Equity Share	Operation Start
Hirano Sewage Treatment Plant, Osaka City Sludge-solid fuel business	Osaka City, Osaka Prefecture	Integrated PFI-type <sup>1</sup> sewage sludge-based biofuels recycling business, from the construction of a facility to convert sewage sludge into fuel to the use of mixed combustion in J-POWER's coal-fired thermal power plants and other facilities (Sludge processing capacity: 150 tons/day)	60%	2014
Omuta Waste-Fueled Power Plant	Omuta City, Fukuoka Prefecture	Recycling power generation using solid fuel (RDF: refuse derived fuel) made by compressing and forming general waste (Generating capacity: 21 MW, RDF processing capacity: 315 tons/day)	45.6%	2002
Mikasagawa-Nakagawa Regional Sewerage Treatment Plant, Sludge-solid fuel business	Fukuoka City, Fukuoka Prefecture	Integrated DBO-type <sup>2</sup> sewage sludge-based biofuels recycling business, from the construction of a facility to convert sewage sludge into fuel to the use of mixed combustion in J-POWER's coal-fired thermal power plants and other facilities (sludge processing capacity: 100 tons/day)	44%	2019

Notes: 1. Private Finance Initiative: The method of conducting public-sector projects from construction through the operating stages by drawing on private-sector funding, management know-how, technology, and other resources

2. Design, Build, Operate: A system whereby the public sector finances projects and then commissions the private sector to undertake their design, building, and operation

### ■ Telecommunications Network Business

Communication networks are essential infrastructure for operating power plants and transmission and substation facilities meaning that reliability is of paramount importance. J-POWER Telecommunication Service Co., Ltd. utilizes the communication network technology cultivated in the electric power business to carry out construction work

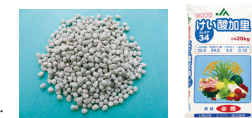
on mobile phone wireless base stations. In response to the specifications and requests presented by telecommunications carriers, J-POWER carries out a range of work in a one-stop package from installation negotiations and design to construction and testing of mobile phone wireless base stations.



### ■ Fertilizer Business

The J-POWER Group's fertilizer business Kaihat-suhiryou Co., Ltd. recycles coal ash (ash formed in pulverized coal combustion) generated from coal-fired power plants, manufactures and sells it as fertilizer. By combining coal ash with caustic potash and magnesium raw materials then firing at high temperatures, J-POWER has commercialized the world's first potassium silicate fertilizer,

which is both environmentally friendly and highly beneficial as a fertilizer. High-quality fertilizer is being delivered to farmers in 47 prefectures nationwide through the Japan Agricultural Cooperatives Group (JA Zen-Noh).



Potassium silicate fertilizer (product)



# Climate Change Scenario Analysis

## Foreword

The J-POWER Group has positioned striking a balance between “stably supplying energy” and “addressing climate change” as its priority management challenge in order to do its part for the realization of a sustainable society. To address this priority challenge, in February 2021, we released the J-POWER “BLUE MISSION 2050” as our action plan aimed at achieving carbon neutrality and a hydrogen society by 2050.

In addition to agreeing with the recommendations formulated by the Task Force on Climate-related Financial Disclosures (TCFD), the J-POWER Group is pursuing the disclosure of information in line with “governance,” “strategy,” “risk management” and “indicators and targets”

pertaining to climate change-related risks and opportunities, whose disclosure is recommended by TCFD. The Group also discloses information based on the “Guidance on Indicators, Targets and Transition Plans” released by TCFD in October 2021.

The figures in this scenario analysis have the potential to fluctuate due to various conditions that include the state of operation of power generation facilities and the external environment. As such, they have been simplified and calculated under certain suppositions solely for the purpose of ascertaining the sense of scale of the impact involved.

## Governance

The J-POWER Group has identified “response to climate change” as one of its material issues. Important matters pertaining to that issue are determined by the Board of Directors.

Additionally, the Group has erected a sustainability framework supervised by the Executive Vice President of ESG Oversight, who was nominated by the President and Chief Executive Officer. In addition to establishing the “Sustainability Promotion Board” as a meeting body, the Group has also placed a “J-POWER Group Sustainability Promotion Conference” to work towards promoting sustainability, including environment-related initiatives, for the Group as a whole.

The Sustainability Promotion Board convenes three or more times a year to deliberate areas such as strategy, planning and measures related to sustainability in general and risk management. It proposes/reports important matters out of those deliberated to the Board of Directors or the Executive Committee.

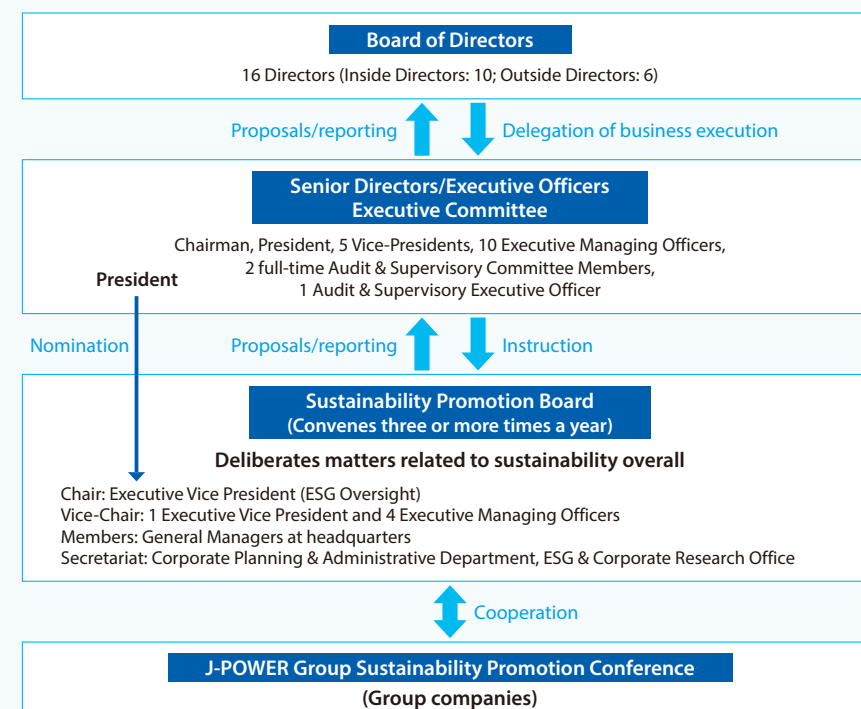
### Recent matters determined with respect to sustainability in the governance framework

Determined by the Board of Directors	Formulation of Basic Policy on Sustainability Identification of material issues Setting of interim targets for CO <sub>2</sub> reduction (FY2025) Feedback by Board of Directors on shareholder proposals regarding climate change
Determined by the Executive Committee	Basic Policy on Environment and forecast on targets
Determined by Sustainability Promotion Board	Setting of material issue targets (KPI) Revision of Sustainability Promotion Regulations

### Recent main matters of reporting to Board of Directors

- Disclosure policy based on TCFD recommendations
- Actual CO<sub>2</sub> emissions (Scope 1-3)
- Status of evaluations by ESG evaluation agencies
- Status of dialogue with external stakeholders regarding climate change

### Governance framework related to climate change



## Climate Change Scenario Analysis

### Strategy: Risk and Opportunities

J-POWER endeavors to ascertain the variety of risks and opportunities that arise from environmental issues, and pushes forward with initiatives while constantly verifying risks as it endeavors to bolster competitiveness. We believe that climate change in particular will require measures in the employment of new technology and a number of other domains, including measures for addressing regulatory reinforcement by national governments.




These factors have the potential to exert considerable impact on J-POWER's business domains as well, which will create business-based risk. However, our view is that the ability to appropriately handle that risk will link to the bolstering of our competitiveness and the acquisition of new business opportunities. We have sorted out risks related to climate change based on that view and have identified risks with a particularly high degree of importance after also factoring in that

degree of importance and concern on the part of stakeholders.







In our analysis of risk and opportunities, we assumed two cases: one where temperatures rise by 1.5°C and another by 4°C, and conducted analysis for both. In the former case, we assumed that formidable measures and regulations were enacted, and that in Japan as well, the renewable ratio grew by a wide margin, and the decarbonization of electric power progressed at a rapid pace.

In the case where temperatures rise by 4°C, where it is assumed that global warming countermeasures will not be enforced, it is projected that by the year 2100, the average ground temperature across the globe will rise by at least 4°C, and that average sea surface water level will elevate by close to 1 m. There are concerns that if measures to combat climate change are not sufficiently taken, the physical risks of climate disasters in 2050 and beyond in particular will become prominent.

Configured scenarios	Reference scenarios	
1.5°C scenario	"World Energy Outlook 2021" by the International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario (NZE Scenario)	Scenario in which formidable measures and regulations are enacted, carbon neutrality is achieved by 2050, and the rise in outdoor temperatures is kept to 1.5°C (The rate of electrification will rise from the current level of 20% to approx. 50% by 2050)
4°C scenario	Sixth Report by the Intergovernmental Panel on Climate Change SSP5-8.5 scenario	Maximum emission scenario in which climate policies are not introduced due to fossil fuels dependence-based developments

-  Degree of impact assumed to be massive  
 Degree of impact assumed to be somewhat large  
 Degree of impact assumed to be minute

Short term: Up to 2025 Medium term: 2030 Long term: 2050

	Division	Specific examples		Timing of occurrence			Degree of impact (Businesses, finance)	State of measures
				Short term	Medium term	Long term		
1.5°C scenario	Transition risk	Policy, legal system and regulation risk	<ul style="list-style-type: none"> <li>Introduction of carbon pricing</li> <li>Regulatory measures aimed at phasing out inefficient coal</li> </ul>	●	●	●		<ul style="list-style-type: none"> <li>Introducing internal carbon pricing as of 2030 with the use of IEA WEO2020 as a reference and utilizing it upon making investment judgments Standard scenario: \$40/tCO<sub>2</sub> Risk scenario: \$90/tCO<sub>2</sub></li> <li>Successively tackling phasing out of power plants starting with dilapidated ones, expansion of mixed combustion with biomass, mixed combustion with either hydrogen or ammonia and upcycling</li> </ul>
		Technology risk	<ul style="list-style-type: none"> <li>Transformation of thermal power generation facilities for which CO<sub>2</sub> emission reduction measures are not being taken into stranded assets</li> </ul>		●	●		<ul style="list-style-type: none"> <li>Transition to CO<sub>2</sub>-free hydrogen power generation (CCUS and mono-fuel combustion with hydrogen, biomass or ammonia)</li> <li>Non-current assets for thermal production facilities: 401.1 billion yen; percentage accounted for by inefficient coal-fired thermal power: Slightly over 10%</li> </ul>
		Market risk	<ul style="list-style-type: none"> <li>Increase in fuel procurement costs</li> <li>Preference for CO<sub>2</sub>-free electric power</li> </ul>		●	●		<ul style="list-style-type: none"> <li>Formation and operation of balanced power source portfolio through accelerated development of CO<sub>2</sub>-free power sources</li> <li>Expansion of businesses with manifestation of strengths as leader in renewables (second highest domestic share in hydroelectric power; second highest domestic share in wind power)</li> </ul>
		Evaluation risk	<ul style="list-style-type: none"> <li>Drop in corporate image due to CO<sub>2</sub> emissions</li> <li>Divestment engagement by investors</li> </ul>	●	●	●		<ul style="list-style-type: none"> <li>Carrying out J-POWER "BLUE MISSION 2050" and contributing to the realization of carbon neutrality and a hydrogen society</li> <li>Promoting information disclosure, etc. in line with TCFD recommendations and reinforcing disclosure of status of initiatives</li> <li>Reinforcing dialogue with stakeholders</li> </ul>
4°C scenario	Physical risk	Acute risk	Facility damage caused by extreme weather phenomena such as torrential rain disasters, forest fires, cold waves and heat waves Insufficient supply of water to power plants		●	●		<ul style="list-style-type: none"> <li>Carrying out revisions of BCP based on updated knowledge as appropriate</li> <li>Negative impact in profit of -240 million yen per day should operation of power generation facilities (thermal power plant: 1 million kW) be obstructed by torrential rain disaster</li> </ul>
		Chronic risk	Negative impact on facilities caused by prolonged rises in average outdoor temperatures, changes in rainfall and rises in sea surface			●		<ul style="list-style-type: none"> <li>Assumed that impact of droughts, torrential rains and rises in sea surface is conceivable at nearly all of J-POWER's power plants and that they are exposed to physical risk; non-current assets for thermal production facilities: 401.1 billion yen; non-current assets for hydroelectric production facilities: 360.1 billion yen</li> </ul>

## Climate Change Scenario Analysis

### Strategy: Risk and Opportunities

Configured scenarios		Reference scenarios						
1.5°C scenario		"World Energy Outlook 2021" by the International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario (NZE Scenario)	Scenario in which formidable measures and regulations are enacted, carbon neutrality is achieved by 2050, and the rise in outdoor temperatures is kept to 1.5°C (The rate of electrification will rise from the current level of 20% to approx. 50% by 2050)					↑ Degree of impact assumed to be massive
4°C scenario		Sixth Report by the Intergovernmental Panel on Climate Change SSP5-8.5 scenario	Maximum emission scenario in which climate policies are not introduced due to fossil fuels dependence-based developments					↗ Degree of impact assumed to be somewhat large
							↔ Degree of impact assumed to be minute	
							Short term: Up to 2025    Medium term: 2030    Long term: 2050	
	Division	Specific examples		Timing of occurrence			Degree of impact (Businesses, finance)	State of measures
				Short term	Medium term	Long term		
1.5°C scenario	Opportunities	Resource efficiency	Developments in low carbon/decarbonization technology and expansion of opportunities Improvement of existing asset value	●	●	●	↑	<ul style="list-style-type: none"> <li>• <b>New value creation using existing assets (upcycling)</b> Short to medium term: Promotion of GENESIS Matsushima Plan</li> <li>• <b>Initiatives aimed at reducing CO<sub>2</sub> emissions</b> Short to medium term: Expanded introduction of biomass, introduction of mixed combustion with ammonia and realization of CCUS Long term: Development of hydrogen mono-fuel combustion technology and promotion of zero emissions from thermal power generation through CCUS</li> </ul>
		Energy sources	Realization of new businesses pertaining to hydrogen, ammonia, and other energy sources		●	●	↑	<ul style="list-style-type: none"> <li>• <b>Challenges with CO<sub>2</sub>-free hydrogen</b> Australian brown coal hydrogen project, joint examination of green ammonia manufacturing and negative emission hydrogen manufacturing, etc.</li> </ul>
		Products and services	Increase in revenues due to expansion of renewables Provision of services that correspond to consumer and end user needs		●	●	↑	<ul style="list-style-type: none"> <li>• <b>Acceleration of development of CO<sub>2</sub>-free power sources</b> Allocating investment funds with priority to development of renewable energy and aiming to achieve development targets of 1.5 million kW or more by FY2025 Making investments in the range of 300 billion yen in the development of renewable energy between FY2022-FY2025 Investments in renewables with issuance of green bonds: 20 billion yen (January 2021); 10 billion yen (January 2022)</li> </ul>
		Markets	Increase in revenues through access to new markets Expansion of electric power markets in emerging countries		●	●	↑	<ul style="list-style-type: none"> <li>• <b>Reinforcement of business foundation</b> Allocating investment funds with a view to realizing J-POWER "BLUE MISSION 2050." (Renewables, electric power networks, upcycling aimed at hydrogen power generation, and nuclear power generation) FY2021 power generation business results: Invested 22% of 185 billion yen in investment funds FY2022 forecast: Plan to invest at least 30% of investment funds, or at least 60 billion yen</li> </ul>
		Resilience	Expansion of renewables, decentralized power sources and end user-side businesses Diversification of low-carbon fuels	●	●	●	↑	<ul style="list-style-type: none"> <li>• <b>Steady expansion of overseas business foundation</b> Expanded development of renewable energy overseas</li> </ul>

## Climate Change Scenario Analysis

### Strategy: Selection of FY2050 Scenario—Net Zero (1.5°C Scenario)

The J-POWER Group performed climate change scenario analysis based on the 1.5°C scenario advocated in the Paris Agreement. Under that scenario, the average rise in outdoor temperatures is to be kept to under 1.5°C, the level prior to the Industrial Revolution. The 1.5°C scenario dictates that CO<sub>2</sub> emissions must essentially be kept to zero (carbon neutrality) by 2050.

While the NZE 1.5°C scenario contains no mention of Japan's energy mix in 2050, in Japan, which has declared 2050 Net Zero, we have

determined that the APS scenario under WEO2021 is close to the NZE scenario, and have therefore adopted this scenario as the main scenario while using the energy mix in 2050 under the APS scenario (JPN) used as a reference. According to IEA projections, by the year 2050, total variable renewable energy (VRE) as represented by solar and wind power will be 70% of total power in the EU and the US.

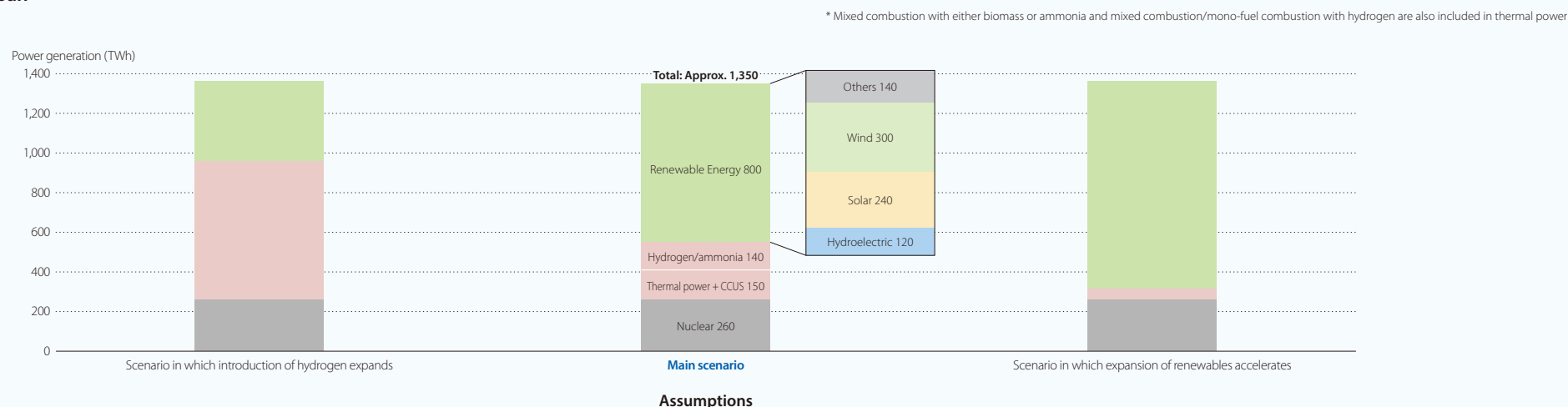
Conversely, in Japan, the VRE is projected to be 40% by 2050, total renewables, nuclear

power and the total of hydrogen/ammonia and thermal power + CCUS are respectively projected to be 60%, 20% and 20%. We believe this is because electric power systems in Japan are interconnected in tandem rather than mesh-shaped like their Western counterparts, leaving them with weak inter-grid linkage and poor versatility and flexibility, and because there are constraints on the introduction of VRE due to the lack of appropriate sites for it, making it necessary to provide adjustment capability through

hydrogen/ammonia and thermal power with CCUS.

Note that the possibility exists that the actual environment in the year 2050 may not take the shape of the assumptions under this main scenario. Given that, we also analyzed scenarios in cases where we modified preconditions related to renewables and thermal energy power generation, which are believed to be areas where the J-POWER Group will be particularly impacted.

### Energy mix in Japan



- Development in hydrogen power generation technology
- Realization of CCUS at low cost and on large scale
- Stagnation of expansion of power grid
- Insufficient locations for siting of renewables
- Rise in development cost of renewables
- Stagnation of decentralization through solar power + storage batteries

- Progress of decentralization in small-scale demand (solar power + storage batteries)
- Expansion of power grid
- Sufficient locations for siting of renewables
- Achievement of CCUS at appropriate cost

- CCUS unachieved/costly
- Insufficient CO<sub>2</sub> storage sites
- Obstacles to fossil fuel procurement (supply chain collapse)
- Powerful policy incentives for renewables
- High carbon pricing



## Climate Change Scenario Analysis

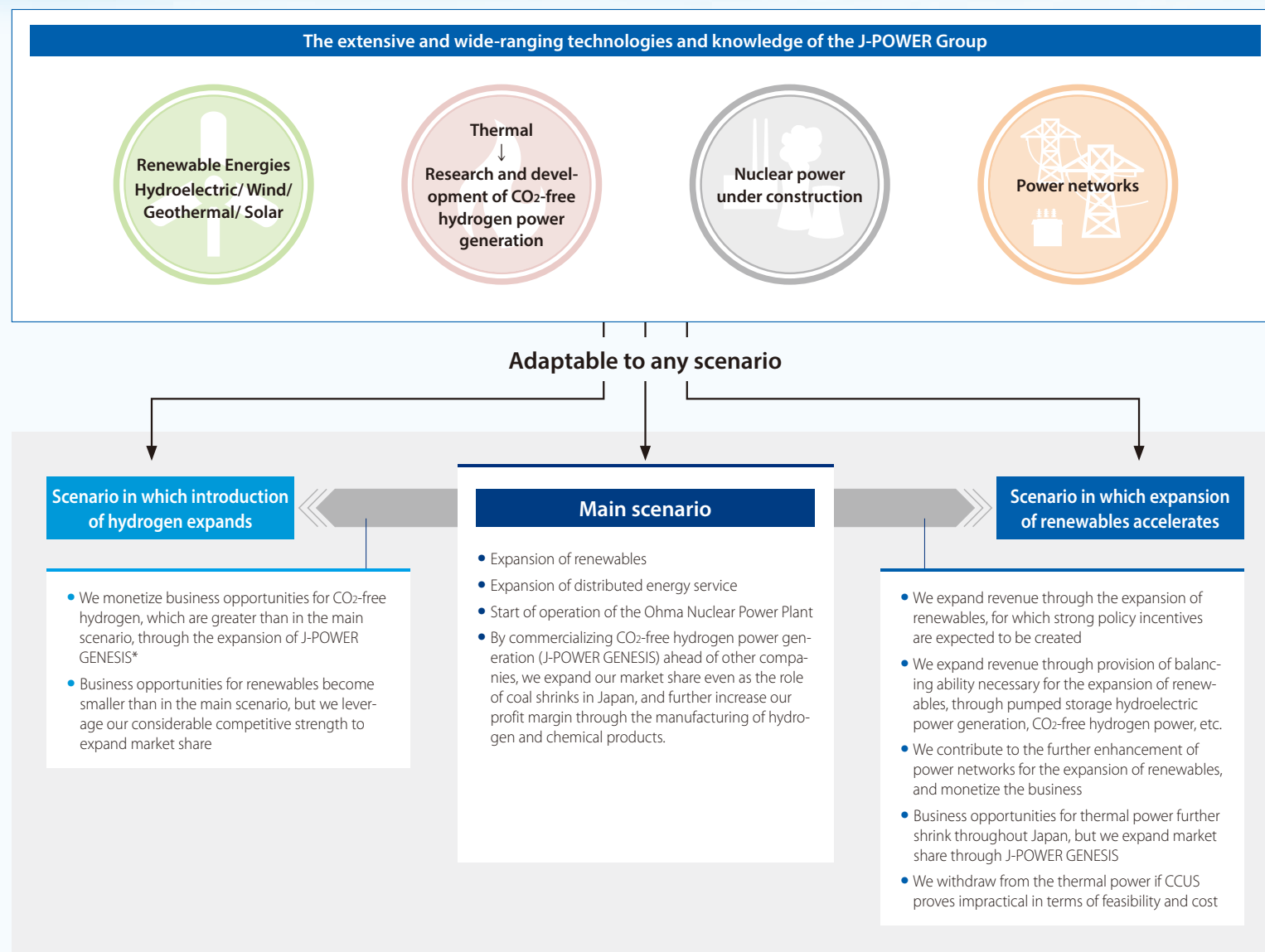
### Strategy: 2050 Scenario Analysis

By 2050, approximately 30 years from now, nearly all of Japan's existing power plants will experience difficulties and a drop in earnings power due to dilapidation. As such, companies that will continue their power generation operations with 2050 in mind, will need to abolish nearly all of their power sources and invest in new ones at some point. That goes for companies outside of the J-POWER Group as well.

Given that, the power source portfolio of each company will undergo a reassessment with a view to carbon neutrality by 2050 as a matter of course. However, as making the transition to CO<sub>2</sub>-free power sources from those that originate from fossil fuels and forming a balanced power source portfolio is a difficult task. That process will be considerably influenced by the technology and knowledge in each of those company's possession.

Through forming and operating a balanced power source portfolio up to this point as well as other means such as conducting research and development on CO<sub>2</sub>-free hydrogen manufacturing and power generation, the development of renewables and the building of nuclear power plants, the J-POWER Group has accumulated a wealth of wide-ranging technology and knowledge over time, and is capable of flexibly selecting investment targets.

Accordingly, as we have no need to emphasize specific power source categories, we are capable of adapting to any kind of scenario for the year 2050. We will aim to optimize our portfolio by investing in CO<sub>2</sub>-free power sources that are anticipated to produce the highest returns as they arise. Additionally, as nearly all existing facilities will be dilapidated by 2050 and we will have completed our return on those investments, no transformation of those facilities into stranded assets will take place either.



\* See p.24 for J-POWER GENESIS

## Climate Change Scenario Analysis

### Strategy: 2030 Scenario Analysis

Up to this point, we performed scenario analysis in line with changes in the energy mix at the time carbon neutrality is achieved in 2050. However, a number of conceivable scenarios also exist regarding the question of on what basis do CO<sub>2</sub> emissions need to be reduced heading towards 2050, and the impact on the J-POWER Group will differ depending on the scenario at hand. Here, we cover the year 2030 as an example that falls under the stage prior to 2050 and analyze the impact of the CO<sub>2</sub> emission reductions asked of the J-POWER Group.

For the main scenario for our 2030 scenario analysis, we adopted the reduction of real CO<sub>2</sub> emissions by 40% in our domestic power generation business,\* which we presented in our J-POWER "BLUE MISSION 2050." Under this main scenario, reductions came to 44% in comparison

to those for FY2013, which is by and large conformant with the Japanese government's NDC. Additionally, a milestone under this main scenario is reductions of 7 million tons in CO<sub>2</sub> emissions by FY2025. Over the eight-year period leading up to 2030, time-based constraints are considerable, and we will have no choice but to limit our efforts to newly build or rebuild power sources, commercialize new technology, augment power transmission lines as infrastructure, and so forth. For that reason, our power source portfolio in 2030 will depend considerably on our current one.

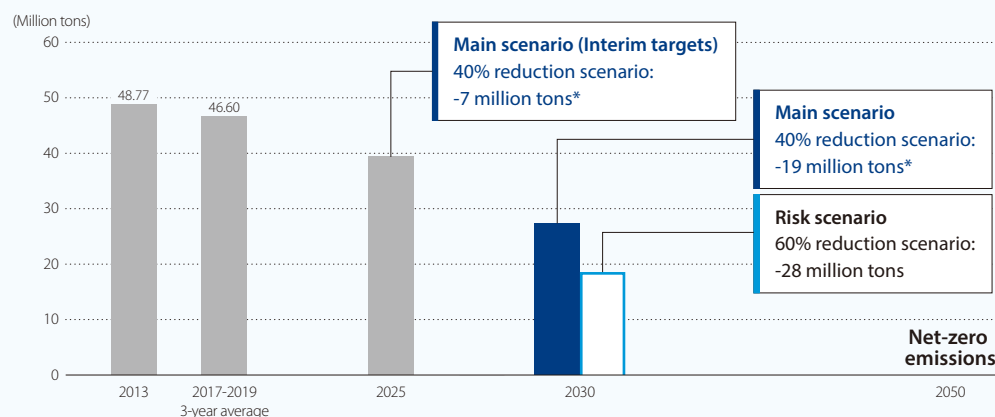
Meanwhile, we will also perform analysis on our risk scenario as one calling for greater CO<sub>2</sub> emissions while using the NZE scenario as a reference. Under this scenario, we would reduce real CO<sub>2</sub> emissions at J-POWER by 60%. The world in this risk scenario involves the introduction of renew-

ables to the maximum extent (slightly under 60% of share); progress in thermal power with CCUS, storage cells and other technological innovations; and the introduction of carbon pricing. This scenario assumes that a number of challenges, including the securing of inertia for systems as a whole and their economic efficiency, can be overcome in order to introduce all power sources. It is also estimated that should VRE be introduced in large quantities, electric power costs that include storage cell costs, adjustment costs for the likes of thermal power generation, and system integration costs such as the cost to augment those systems will increase over current levels. Increases in charges for electric power sold to a certain degree are therefore anticipated.

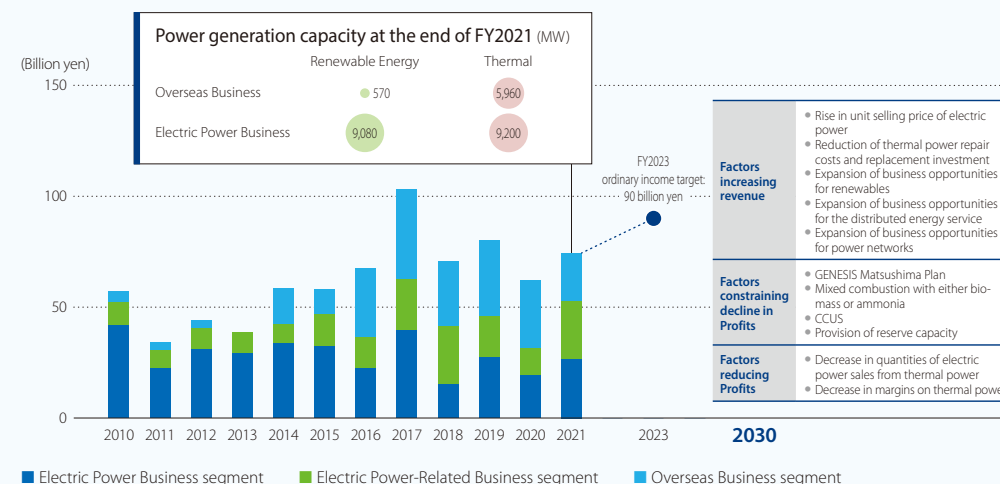
In each scenario heading towards 2030, coal-fired thermal power carries the risk of lower profits

in line with reductions in CO<sub>2</sub> emission reductions. Still, we will aim to control increases in power generation costs (reductions in margins) caused by the introduction of carbon pricing by utilizing the likes of the GENESIS Matsushima Plan, mixed combustion of biomass or ammonia fuels, and CCUS. Additionally, should there be a movement across Japan to rapidly reduce CO<sub>2</sub> emissions, there is a possibility that the environment surrounding the Group's Electric Power Business will experience a secondary shift, which in turn may impact the bottom line of the J-POWER Group. Given that, the Group will aim to expand revenue by developing new renewables, acquiring electric power network augmentation projects, maximizing adjustment capability value, and expanding the distributed energy service business that it conducts through its equity-method affiliate.

### CO<sub>2</sub> emissions from the J-POWER Group's domestic power generation business



### Ordinary income by segment



## Climate Change Scenario Analysis

### ■ Strategy: 2030 Main Scenario (40% reduction in real CO<sub>2</sub> emissions) Financial impact

A world conforming to Japan's NDC has been assumed as a precondition.

	Factors	Impact in value	
Impact on thermal power	Decrease in quantities of electric power sales from thermal power	Decrease in profits of approx. 10 billion yen	Electric power sales from thermal power will decrease by approx. 40% mainly due to the temporary suspension of abolition of non-efficient coal-fired thermal power, resulting in an estimated decrease of approx. 10 billion yen in ordinary income from dilapidated electric power.
	Carbon pricing	—	No introduction of carbon pricing envisioned for 2030 profile under existing NDC.
	Biomass/ammonia mixed combustion	—	We will reduce emission intensity through mixed combustion with either biomass or ammonia, and will constrain the decrease in electric power sales. There are issues to be solved such as procurement of biomass and ammonia, but we will work on them as much as possible.
	Introduction of CCUS	—	We will take the initiative in tackling a feasibility study for domestic CCS and take on the challenge of commencing capture and storage from 2030.
	Impact in value due to fluctuations in charges for electric power sold	—	—
	GENESIS Matsushima Plan	—	Reduces CO <sub>2</sub> emissions by 10% by adding gasification facilities, and other measures to existing Matsushima thermal power to "upcycle" it. Eventually aims to realize CO <sub>2</sub> -free hydrogen power generation.
	Reduction in thermal power repair expenses and renewal investment	+α	Constraining repair expenses and renewal investment for thermal power plants prior to constraint of operations anticipated from 2030. Actual repair costs and replacement investment for coal-fired thermal power will be approx. 45 billion yen per year and investment for renewal will be about 20 billion yen per year, some of which can be reduced.
Impact on renewable energy	Expansion of revenues for renewable energy (Wind power)	Increase in profits of approx. 10 billion yen	As of March 31, 2022, the total output of wind power plants in operation and such plants on which we launched research for construction will increase by approx. 1.6 million kW from FY2017. Electric power generated in cases where all operations for wind power generation that have yet to enter operation commence in 2030 will come to approx. 3.5 billion kWh. The incremental revenue is based on the premise of the existing profitability of FIT power sources.
	Expansion of revenues for renewable energy (Hydroelectric)		For the electric power sales of approx. 9 billion kWh of hydroelectric power generation that is not subject to FIT, should sales prices rise by 0.1 yen due to sensitivity to factors such as a rise in contract sales prices and non-fossil fuel certificate sales prices, profits will increase by approx. 900 million yen (Sensitivity for each 0.1 yen/kWh increase in price).
		+0 million yen +α impact	The decrease in profit from coal power covered by expanded profits resulting from expansion in renewables.

## Climate Change Scenario Analysis

### Strategy: 2030 Risk Scenario (60% reduction in real CO<sub>2</sub> emissions) Financial impact

A world conforming to the NZE scenario has been assumed as a precondition.

Carbon pricing (developed countries): \$130/tCO<sub>2</sub> (Highest value among prices in the year 2030 as estimated within the IEA WEO2021)

Electric power charges: Increase of 0-10 yen/kWh

	Factors	Impact in value	
Impact on thermal power	Decrease in quantities of electric power sales from thermal power	Decrease in profits equivalent to approx. 10 billion yen	Regarding amounts for which CO <sub>2</sub> emission reductions are in excess of 40%, because emissions will be reduced using the likes of CCUS or mixed combustion using low-carbon fuels, there will be no decrease in electric power sales equal to 40% of more. (Electric power sales for thermal power are assumed to be 60% of the record years of FY2017-FY2019: 55 billion kWh×0.6=33 billion kWh)
	Carbon pricing	Increase in costs equivalent to approx. 260 billion yen	Impact in value accompanying the 40% in emissions for which measures could not be taken, after the reduction of 60%. Remaining CO <sub>2</sub> emissions 0.4×\$130/tCO <sub>2</sub> The 20% reduction in addition to the main scenario (40% decrease) will be covered based on the assumption of using CCS and other measures.
	Biomass/ammonia mixed combustion	Increase in costs equivalent to approx. 50 billion yen to 100 billion yen	Mixed combustion with either biomass or ammonia, CCUS and other measures will be taken for 20% reduction in CO <sub>2</sub> emissions. Total incremental cost when various measures are taken → Calculated by J-POWER using Cost Review Sheet by Power Generation Cost Verification Working Group (2021) as a reference
	Introduction of CCUS		
	Impact in value due to fluctuations in charges for electric power sold	0-330 billion yen in revenues	Revenues in cases where estimated electric power of sales of 33 billion kWh for thermal power generation undergoes an increase of 0-10 yen/kWh in electric power prices.
	GENESIS Matsushima Plan	—	Aiming of negative emissions by gasifying coal together with biomass fuels in GENESIS Matsushima Plan.
	Reduction in thermal power repair expenses and renewal investment	+α	Constraining repair expenses and renewal investment for coal-fired thermal power plants prior to constraint of operations anticipated from 2030. Actual repair costs and replacement investment for coal-fired thermal power will be approx. 45 billion yen per year and investment for renewal will be about 20 billion yen per year, some of which can be reduced.
Impact on renewable energy	Expansion of revenues for renewable energy (Wind power)	Increase in profits/revenues of approx. 20 billion yen	Under the risk scenario, around 60% of electric power supplied in 2030 will be done so using renewables. Wind power generation will require approx. 5 times of existing supply power. It is assumed that new wind power facilities at J-POWER are successfully developed in a similar fashion through measures to accelerate the introduction of renewables, etc.
	Expansion of revenues for renewable energy (Hydroelectric)	Increase in profits of approx. 0-90 billion yen	Incremental revenues when electric power sales for hydroelectric power are 9 billion kWh and electric power prices have increased by 0-10 yen/kWh.
		Impact of -350*~+120 billion yen <small>* Should the impact in value from the decrease in profits exceed that for the Electric Power Business under segment profit, said impact can be lessened by suspending the operation of thermal power.</small>	Under the risk scenario, it is assumed that power generation costs will rise due to the introduction of carbon pricing and CO <sub>2</sub> emission reduction technology. However, the overall timeframe for carbon neutrality will likely differ depending on the degree to which society at large tolerates rises in electric power prices. Assets with financial impact on J-POWER businesses also change considerably according to this timeframe.

## Risk Management

Based on its crisis management framework, the J-POWER Group accurately predicts and prevents disasters, facility accidents and other critical events as well as swiftly and adequately responds to and manages those events when they manifest themselves.

Additionally, the Group analyzes and evaluates risk and opportunities related to climate change at meetings of the Sustainability Promotion Board, where it examines relevant measures.



## Climate Change Scenario Analysis

### Indicators and Targets

#### Targets

#### Promotion of zero emissions from power sources

**Indicators**

FY2025: Reductions of **7 million tons** of emissions from domestic power generation business\*

2030: Reductions of **40% (19 million tons)\*** of emissions from domestic power generation business

\* In comparison to three-year average for FY2017-FY2019; reductions will come to 44% in comparison to FY2013.



Biomass

CO<sub>2</sub>-free hydrogen

CCS

#### Targets

#### Expansion of CO<sub>2</sub>-free power sources

**Indicators**

New development of **1.5 million kW** by FY2025

(In comparison to FY2017)



Hydroelectric



Wind

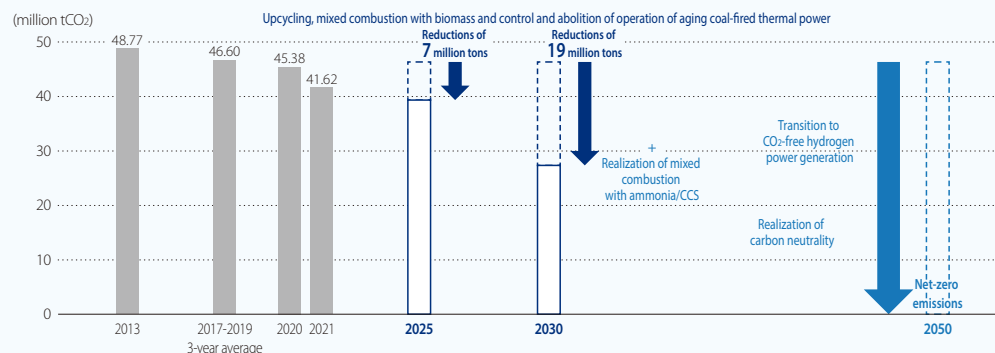


Geothermal

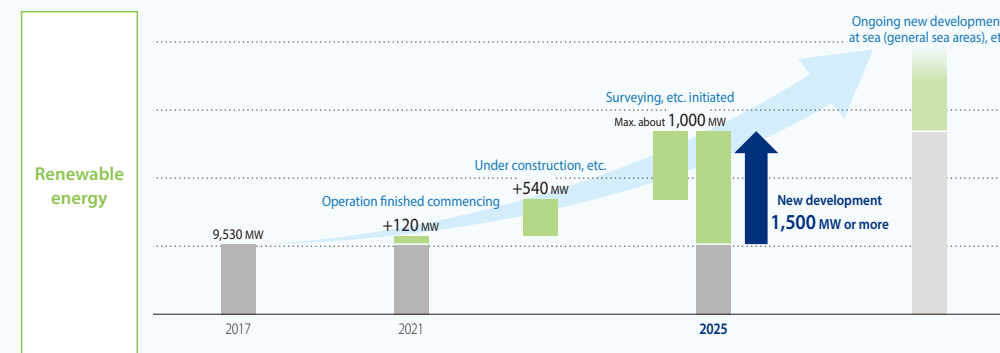


Solar

### Movements in CO<sub>2</sub> emissions in domestic power generation business



### Nature of renewable energy initiatives (As of March 31, 2022)



### Categories of Indicators Related to Climate Change

GHG emissions	Scope 1: 47.95 million tCO <sub>2</sub> * Scope 2: 0.14 million tCO <sub>2</sub> * Scope 3: 13.60 million tCO <sub>2</sub> * The ★ mark indicates data subject to certification by third parties Official certification report: Supplementary Materials <E: Environment> <a href="https://www.jpowers.co.jp/english/ir/ir51121.html">https://www.jpowers.co.jp/english/ir/ir51121.html</a>
Transition risk	Thermal power plants are assumed to be exposed to transition risk. Non-current assets for thermal production facilities: 401.1 billion yen; percentage accounted for by inefficient coal-fired thermal power: slightly over 10%
Physical risk	Assumed that impact of droughts, torrential rains and rises in sea surface is conceivable at nearly all of J-POWER's power plants. Insufficient water supply at hydroelectric power plants, impact on coolant or equipment at thermal power generation facilities, etc. Non-current assets for thermal production facilities: 401.1 billion yen; non-current assets for hydroelectric production facilities: 360.1 billion yen
Opportunities	New development of 1.5 million kW in renewables in comparison to FY2017 by FY2025
Capital allocation	Amount of investment in renewable energy between FY2022-FY2025: 300 billion yen-range Distributing investment funds with a view to realizing J-POWER "BLUE MISSION 2050." (Renewables, electric power networks, upcycling aimed at hydrogen power generation, and nuclear power generation) FY2021 results: Invested 22% of 185 billion yen in investment funds FY2022 forecast: Plan to invest at least 30% of investment funds, or at least 60 billion yen
Internal carbon prices	Standard case: \$40/tCO <sub>2</sub> Risk case: \$90/tCO <sub>2</sub> (Estimated amounts for 2030; utilized upon making investment judgment)
Compensation	In order for J-POWER to achieve carbon neutrality by 2050, it is necessary for it to strike a balance between stably supplying energy and addressing climate change. J-POWER does not believe that linking compensation to the sole individual indicator of the degree of achievement of CO <sub>2</sub> emission reduction targets is appropriate, and has not introduced compensation directly linked to climate change. Officer compensation at J-POWER is comprised of three types: "monthly compensation," "performance-linked compensation" and "stock compensation." The percentage of officer compensation linked to performance is about 20%.

# J-POWER Group's Sustainability Initiatives

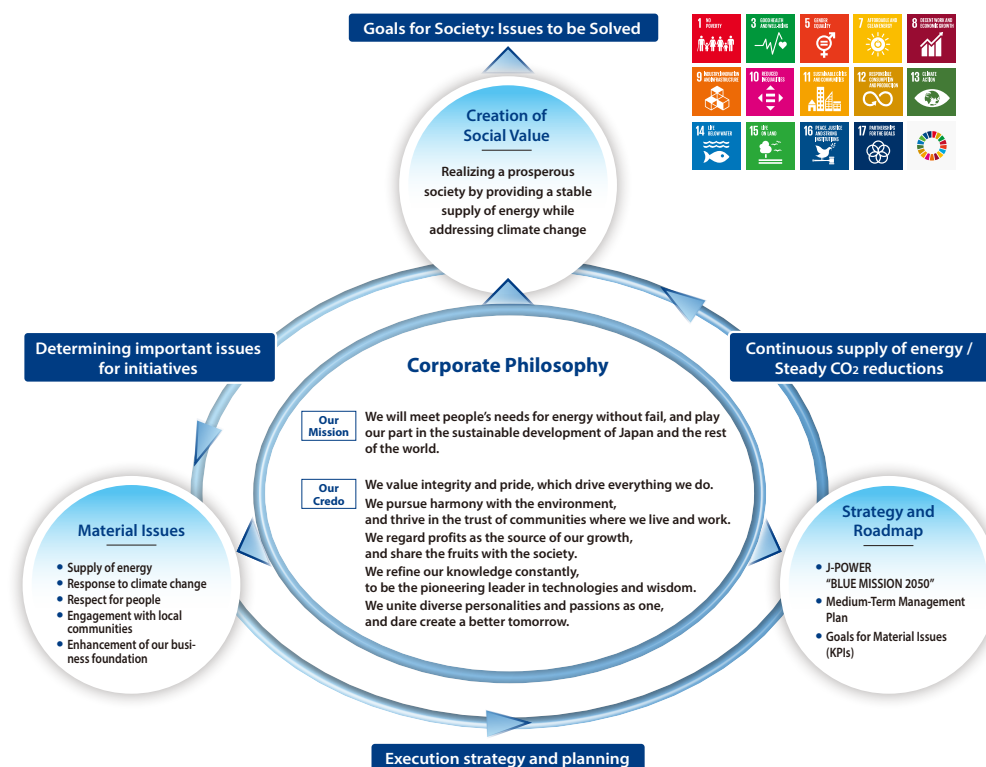
## Relationship between Sustainability and Improving Corporate Value

Under our Corporate Philosophy of "We will meet people's needs for energy without fail, and play our part in the sustainable development of Japan and the rest of the world," the J-POWER Group is advancing initiatives aimed at improving our corporate value from the standpoints of the environment, society, and governance.

The J-POWER Group has identified five material issues, namely, the supply of energy, response to climate change, respect for people, engagement with local communities, and enhancement of our

business foundation. Targets (KPIs) have been set for each of these material issues (see p.6-p.7)

Our corporate philosophy is sustainability itself, and the initiatives we are taking to achieve targets (KPIs) for each material issue are closely tied to the actions set out in the Medium-Term Management Plan. Through our business activities, we will improve our financial value and at the same time achieve targets (KPIs) for material issues to strike the right balance between sustainable enhancement of corporate value and social issues.



## External Evaluations on Sustainability

### Inclusion in ESG Indices

Our sustainability initiatives have been greatly acknowledged by the outside world, resulting in the Company's inclusion in the following ESG indices as of June 2022.



FTSE4Good



FTSE Blossom Japan



FTSE Blossom Japan Sector Relative Index

\* FTSE Blossom Japan Index Series  
(<https://www.ftserussell.com/products/indices/blossom-japan>)

### External Evaluations on Communication

The J-POWER Group is making every effort to improve its information disclosure through its integrated report and website. As well as being selected for four consecutive years as a Most-Improved Integrated Report by the Government Pension Investment Fund (GPIF), in FY2021 J-POWER was listed as a AAA website in the Overall Rankings of the All Japanese Listed Companies' Website Ranking conducted by Nikko Investor Relations.

## External Evaluations on the Environment and Society

The Group has identified the response to climate change as one of its material issues. J-POWER is aware of the importance of climate-related information disclosure and is working to enhance information disclosure.

We have been responding to questionnaires sent by CDP (formerly the Carbon Disclosure Project) since FY2017 on climate change, and in FY2021, on water security. The scores for 2021 are as follows:



### CDP Scores

Response Year	FY2019	FY2020	FY2021
Climate change	B-	B	B
Water security	—	—	B-

Moreover, we have been disclosing our analysis of climate change scenarios as recommended by the TCFD in our integrated reports since FY2019 (see p.42-p.56)

In terms of our initiatives revolving around society, we have been recognized as a Health & Productivity Management Outstanding Organization and acquired Platinum Kurumin certification.



## J-POWER Group's Sustainability Initiatives

### Basic Policy on Sustainability

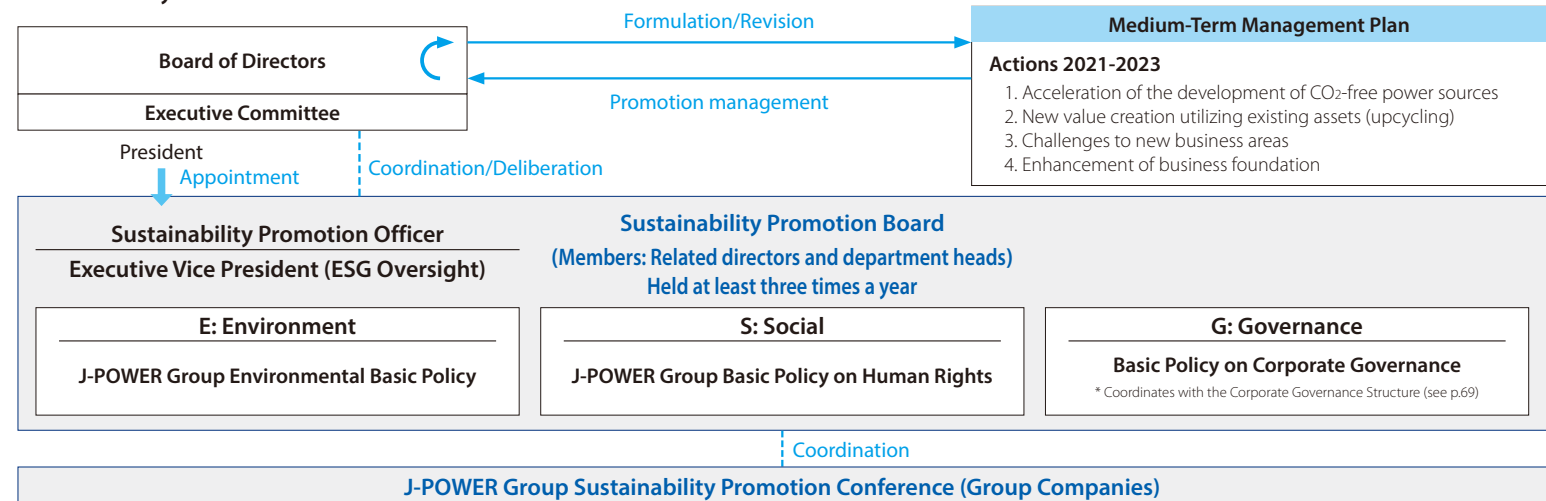
Under our Corporate Philosophy of "We will meet people's needs for energy without fail, and play our part in the sustainable development of Japan and the rest of the world," we, the J-POWER Group, will realize a prosperous society through our business activities both in Japan and the world, based on a relationship of trust with our stakeholders.

### Sustainability Promotion Structures

We have established sustainability promotion structures led by the Executive Vice President (ESG Oversight). We have established the Sustainability Promotion Board and the J-POWER Group Sustainability Promotion Conference through which we promote environmental initiatives and other aspects of sustainability across the Group.

J-POWER's important ESG policies, including its Basic Policy on Sustainability and material issues, are decided by the Board of Directors after discussions at the Executive Committee.

### Sustainability Promotion Structures



### Signing of the UN Global Compact

In April 2021, J-POWER was registered as one of the corporate signatories of the UN Global Compact (UNGC). At the same time, we joined Global Compact Network Japan, a group composed of Japanese signatories to the compact.

UNGC is a voluntary effort by which companies and organizations act as good members of society and participate in the creation of a global framework for sustainable growth by demonstrating responsible and creative leadership. Companies and organizations that sign the

UNGC are required to observe and practice ten principles related to the four areas of human rights, labor, the environment, and anti-corruption in the development of their corporate strategies and activities.

J-POWER has engaged in efforts to improve its corporate value in the fields of environment, society, and governance (ESG). By signing the UNGC and clearly expressing our corporate stance, we will further strengthen our ESG initiatives. In July 2021, we identified five material

issues that should be prioritized. Of these issues, we are strengthening our efforts in response to climate change and respect for people. In June 2022, we established our Basic Policy on Human Rights to strengthen our response to respect for human rights.

#### The Ten Principles of the UN Global Compact

##### Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

##### Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

##### Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

##### Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

# J-POWER Group and the Environment

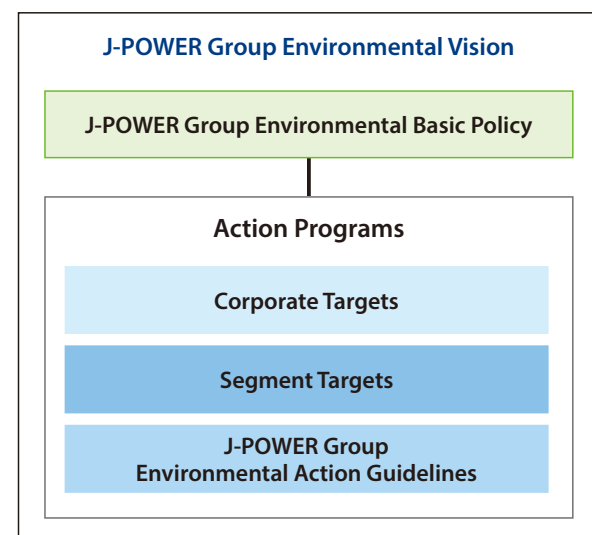
For details, please refer to the J-POWER website.

<https://www.jpowers.co.jp/english/sustainability/environment/>

**As a Company involved in the supply of energy, the J-POWER Group contributes to the sustainable development of Japan and the world while seeking harmony with the environment.**

Based on our Basic Policy on Sustainability and the material issues we have identified, the J-POWER Group will continue to strive to preserve the environment by revising its target system as shown in the figure below.

In the revision of our target system, while we have kept with the J-POWER Group Basic Environmental Policy, we have adopted a simpler, easier to understand system by ceasing use of the names, J-POWER Group Environmental Vision, and Action Programs, which had been used as general terms previously. The term, Corporate Targets, has now been changed to J-POWER Group Environmental Targets, and Segment Targets has been changed to J-POWER Group Divisional Environmental Targets.



Revision of the  
target system  
in FY2022

## J-POWER Group Environmental Basic Policy

### Addressing Climate Change

Work on realizing carbon neutrality using our experience and technology to provide a constant energy supply and bring about a sustainable society.

### Addressing Local Environment Issues

Seek to operate in harmony with local environments by adopting measures to reduce the environmental impact of our operations while working to save, recycle, and reuse resources in order to limit waste.

### Ensuring Transparency and Reliability

Ensure that our business activities comply with all applicable laws and regulations, disclose a wide range of environmental information, and enhance communication with stakeholders.

## J-POWER Group Environmental Targets

Targets set for medium-term issues and addressed by the whole Group

<b>Addressing Climate Change</b>	Accelerating the development of CO <sub>2</sub> -free power sources Reducing greenhouse gas (GHG) emissions	<ul style="list-style-type: none"> <li>Development of more than 1,500 MW by FY2025</li> <li>Promotion of the Ohma Nuclear Power Plant Project with safety as a major prerequisite</li> <li>7 million ton CO<sub>2</sub> reduction from domestic power generation business by FY2025*</li> <li>19 million ton CO<sub>2</sub> reduction from domestic power generation projects by FY2030 (40% decrease)*</li> <li>* Compared to the three-year average of actual emissions for FY2017-FY2019</li> <li>Achieve the thermal power generation benchmark under the Act on Rationalizing Energy Use by FY2030</li> </ul>
<b>Addressing Local Environment Issues</b>	Creation of a recycling-oriented society Biodiversity conservation Protecting aquatic environments	<ul style="list-style-type: none"> <li>Effective utilization rate of industrial waste: Approx. 97%</li> <li>Reduction of waste plastic emissions and recycling of resources</li> <li>Consideration for biodiversity conservation in business activities</li> <li>Consideration for the conservation of river and aquatic environments in business activities</li> </ul>
<b>Ensuring Transparency and Reliability</b>	Improving the environmental management level Full compliance with environmental laws and agreements Environmental communication activities	<ul style="list-style-type: none"> <li>Continuous improvement of EMS</li> <li>Zero serious violations of environmental laws and agreements</li> <li>Environmental communication activities in local communities and within the Company</li> </ul>

## J-POWER Group Environmental Action Guidelines\*

Issues that the J-POWER Group should address, and main details of initiatives for each issue

## J-POWER Group Divisional Environmental Targets

Divisions of the J-POWER Group consider the J-POWER Group Environmental Targets and Action Guidelines, set targets and work toward them

\* For details on J-POWER Group Environmental Basic Policy, see J-POWER Group Integrated Report 2022 Supplementary Material: Environment.



## J-POWER Group and the Environment

### J-POWER Group Environmental Vision: Corporate Targets and FY2021 Achievements (1)

\* The Corporate Targets will be the J-POWER Group Environmental Targets from FY2022 onwards.

J-POWER achieved all of its corporate targets for FY2021 single year.

We are continuously promoting initiatives to address medium-term goals for climate change.

#### Addressing Climate Change

Target	Main FY2021 Initiatives	Target Achievement
<b>Accelerating the development of CO<sub>2</sub>-free power sources</b>		
Development of more than 1,500 MW by FY2025	<ul style="list-style-type: none"> <li>With regard to hydroelectric power, we have decided to construct the Onabara Power Plant which will utilize unused maintenance flow discharge from the Tedorigawa Dam. We also continued planned construction on the Shinkatsurazawa Power Station and the repowering of the Ashoro Hydroelectric Power Station. * Operation commenced at the Kumaori Power Station (output: +200 kW) and Shinkatsurazawa Power Station (output: +1,800 kW) in April, 2022 and May, 2022, respectively</li> <li>In terms of onshore wind power, we are promoting construction work at the Kaminokuni No.2, Minami Ehime No. 2 and Esashi wind farms, and preparations for construction at the Ishikari Hachinosawa site. We are also doing replacement work on the Tomamae, Shimamaki, Sarakitomanai, and Nikaho Kogen wind farms.</li> <li>In offshore wind power, we are making constructing preparations for the Kitakyushu Hibikinada offshore wind farm. We are also conducting development surveys for sites at Hiyaama, Awara, Saikai, and offshore Yuza.</li> <li>In the overseas wind power business, wind turbine tests at the Triton Knoll Offshore Wind Farm (capacity: 214MW) in the United Kingdom were completed in January 2022, with commercial operation beginning in April. We also acquired expertise in building offshore wind power farms through this project.</li> <li>Looking at the development of new sites for geothermal power projects in Japan, we started construction of the Appi Geothermal Power Plant in August 2019 and proceeding with construction. And with an eye on future geothermal power plant development at the Takahinatayama site in Osaki City, Miyagi Prefecture, we conducted small caliber well drilling surveys from July 2019 to 2021. We started large caliber well drilling survey from June 2022. Furthermore, having shut down the Onikobe Geothermal Power Plant's existing facilities in April 2017, we began facility replacement operations in April 2019 and now engaged in construction.</li> <li>In terms of solar power, in November 2021, we won bids for J-POWER's first solar power generation projects in Japan in Kitakyushu City, Fukuoka Prefecture (approximately 30 MW) and in Himeji City, Hyogo Prefecture (approximately 2 MW). Commercial operation is slated to begin for the former in 2024 and the latter in 2023. Overseas, we entered into a joint development agreement with a business partner to develop a new large-scale solar power generation project in the U.S. We also started a rooftop solar business in Thailand.</li> </ul>	Ongoing
Promotion of the Ohma Nuclear Power Plant Project with safety as a major prerequisite	<ul style="list-style-type: none"> <li>For the Ohma Nuclear Power Plant Project, we carried out studies for safety enhancement measures and responded to the review of compliance with the new safety standards.</li> <li>We also implemented initiatives to gain the understanding and trust of local residents.</li> </ul>	Ongoing
<b>CO<sub>2</sub> emissions reduction</b>		
Reduce emissions by at least 40% from the FY2017-FY2019 three-year average by FY2030	<ul style="list-style-type: none"> <li>Environmental assessment procedures were started in September 2021 for upcycling at GENESIS Matsushima, the first step in CO<sub>2</sub>-free hydrogen power.</li> <li>We are exploring means to decommission aging thermal power facilities and expand biomass generation, as well as to develop practical applications for mixed combustion with ammonia.</li> </ul>	Ongoing
Achieve thermal power generation benchmark under the energy efficiency law by FY2030	<ul style="list-style-type: none"> <li>In order to achieve the FY2030 benchmark, we are maintaining high-efficiency operations at existing thermal power plants while exploring means to expand biomass generation and develop practical applications for mixed combustion of biomass and ammonia.</li> </ul> <p>FY2021 Performance Indicator A: 0.94 (0.99) Indicator B: 38.7% (40.7%) * Values in parentheses are reference values calculated by converting the heat conversion coefficient in the Act on the Rational Use of Energy to the actual fuel heat coefficient.</p>	Ongoing
<b>Reduction of sulfur hexafluoride (SF<sub>6</sub>) emissions</b>		
Inspection: at least 97%, Retirement: at least 99%	As a result of efforts to curb emissions during equipment inspection by ensuring recovery and reuse, we achieved our targets of 99.6% during inspections and 99.2% at retirement.	○

## J-POWER Group and the Environment

### J-POWER Group Environmental Vision: Corporate Targets and FY2021 Achievements (2)

\* The Corporate Targets will be the J-POWER Group Environmental Targets from FY2022 onwards.

#### ■ Addressing Local Environment Issues

Target	Main FY2021 Initiatives		Target Achievement
<b>Reduction of sulfur oxide (SOx) emissions</b> (Reduction per unit of gross electricity generation by thermal power)			
Maintain current level [about 0.2 g/kWh]	0.21g/kWh	As a result of efforts including fuel management and the appropriate operation of flue gas desulfurization systems, we curbed our SOx emissions and achieved our target for emissions per unit of electric power generated.	○
<b>Reduction of nitrogen oxide (NOx) emissions</b> (Reduction per unit of gross electricity generation by thermal power)			
Maintain current level [about 0.5 g/kWh]	0.46g/kWh	As a result of efforts including fuel management, combustion management and the appropriate operation of flue gas denitrification systems, we curbed our NOx emissions and achieved our target for emissions per unit of electric power generated.	○
<b>Increasing the recycling rate for industrial waste</b>			
Maintain current level [about 97%]	97.7%	We achieved our targets through efforts to promote the recycling of coal ash and to reduce industrial waste generated by the maintenance and operation of power plants.	○
<b>Preservation of aquatic environments</b>			
Consider the protection of river and ocean environments in business activities	At operating power generation facilities that are involved with rivers, we implemented measures for the protection of the river environment appropriate to the conditions at each location. These included the implementation of sedimentation disposal measures and measures to mitigate the long-term persistence of turbidity. At operating power generation facilities that adjoin the ocean, we implemented precise control over effluent in compliance with environmental protection agreements and other such arrangements.		○
<b>Preservation of biodiversity</b>			
Consider the protection of biodiversity in business activities	We showed consideration for the protection of ecosystems and the diversity of species in conducting our business activities and worked to protect rare animal and plant species and their habitats.		○

#### ■ Ensuring Transparency and Reliability

Target	Main FY2021 Initiatives		Target Achievement
<b>Improvement of environment management level</b>			
Continual improvement of EMS	We implemented the PDCA cycle consistently and worked to raise the level of environmental management.		○

# Environmental Initiatives

For details, please refer to the J-POWER website.

<https://www.jpowers.co.jp/english/sustainability/environment/activities/>

In addition to our CO<sub>2</sub> reduction initiatives aimed at achieving carbon neutrality, the J-POWER Group works to achieve global sustainable growth through efforts that include the reduction of environmentally harmful substances, creation of a recycling-oriented society, and conservation of the biodiversity.

## Addressing Climate Change

The J-POWER Group's main businesses are its domestic and overseas electric power generation businesses. Accordingly, we pursue to address global environment issues, especially climate change, which we view as materiality for the Group. The J-POWER Group aims to both achieve global economic development and address the climate change issue. To make it happen, we are implementing a variety of initiatives.

For information on specific initiatives, please refer to the following pages.

- ▶ J-POWER "BLUE MISSION 2050" p.14-p.27
- ▶ Medium-Term Management Plan p.28-p.32
- ▶ Local Communities Engagement p.66-p.68

## Issuance of "J-POWER Green Bond"

Since FY2020, the J-POWER Group has been issuing green bonds to procure cash needed for projects which contribute to combating climate change including the renewable energy business, and in January 2022 issued the second J-POWER Green Bond (76th issuance of unsecured corporate bonds). The funds raised through this issuance have been appropriated

for two renewable energy development projects. Environmental improvement effects (i.e. reduction of CO<sub>2</sub> emissions) will be announced on our website after the start of operation of all eligible projects.

J-POWER Green Bonds webpage:  
<https://www.jpowers.co.jp/english/ir/ir00230.html>

## Report on the allocation of 2nd J-POWER Green Bonds funds (as of the end of March 2022)

Item		Amount
Amount raised (net amount)		¥9.9 billion
Amount allocated	Kuzumaki No. 2 Wind Farm	¥7.9 billion
	Kaminokuni No.2 Wind Farm	¥2.0 billion
Unallocated balance		¥0.0 billion

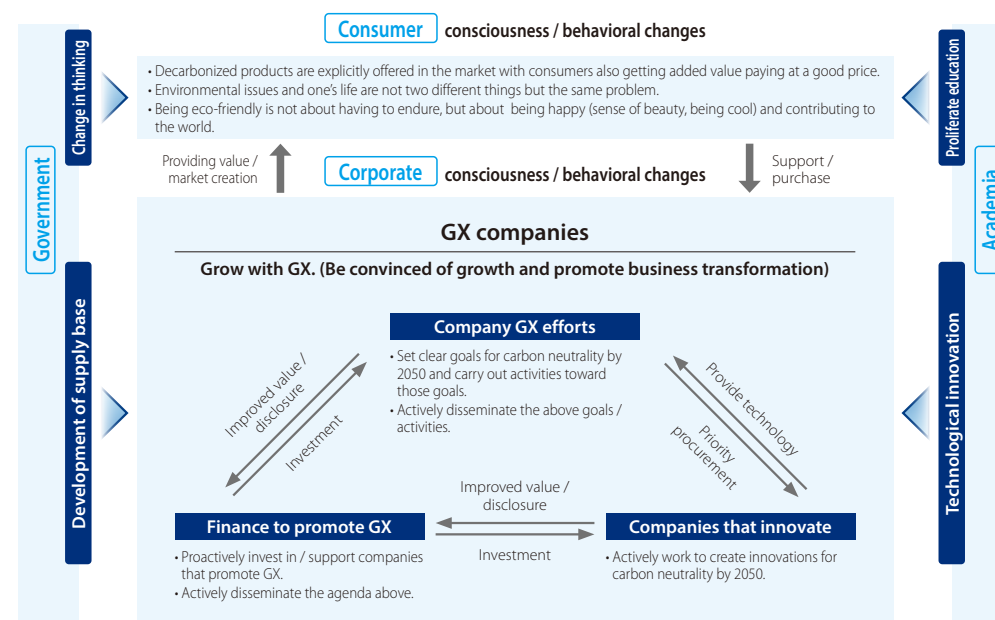
## Endorsement of the GX League Basic Concept

On February 2, 2022, J-POWER endorsed the GX (Green Transformation) League\* Basic Concept as published by the Ministry of Economy, Trade and Industry.

Companies participating in the GX League are expected to contribute to global carbon neutrality through a commitment to efforts to reduce their own emissions, efforts to achieve carbon neutrality in the supply chains, and

efforts in markets through products and services. As announced in the J-POWER "BLUE MISSION 2050," we will continue to accelerate our efforts with the aim of reducing CO<sub>2</sub> emissions from our domestic electric power business by 40% by 2030, achieving carbon neutrality by 2050 with net zero emissions.

\* A forum for companies actively involved in GX to engage in discussions for the transformation of the entire socioeconomic system and to create new markets through cooperation in the government, academic, and economic spheres.



Source: GX League Basic Concept Announced, Call for Endorsing Companies Starts, Ministry of Economy, Trade and Industry website (translated from Japanese)  
<https://www.meti.go.jp/press/2021/02/20220201001/20220201001.html>

# Respect for People

The J-POWER Group recognizes respect for people as a material issue. It is actively working to respect the human rights of all people, including employees, promote diversity, and create an environment in which employees and other human resources who support J-POWER's activities can play an active role.

## ■ Establishment of the J-POWER Group Basic Policy on Human Rights

In order to clearly show our attitude toward respect for human rights and fulfill our responsibilities, we established and published on our website the J-POWER Group Basic Policy on Human Rights in June 2022, which outlines our basic approach to respect for human rights. Going forward, we will promote human rights initiatives for all stakeholders, including in our supply chains, based on this policy.

### The J-POWER Group Basic Policy on Human Rights

Based on the J-POWER Group Corporate Philosophy, we aim to contribute to society through our business activities and to develop in a sustainable way together with society. Guided by our Basic Policy on Sustainability, we are mindful of our responsibility to respect the human rights of people whose lives are impacted by our business activities. We make every effort to meet this responsibility.

We promote initiatives to respect human rights. Therefore, we have established a basic policy on human rights for the J-POWER Group (below, the "Basic Policy") based on the International Bill of Human Rights (the Universal Declaration of Human Rights and the International Covenants on Human Rights), the ILO Declaration on Fundamental Principles and Rights at Work, the OECD Guidelines for Multinational Enterprises, the Ten Principles of the UN Global Compact, and the UN Guiding Principles on Business and Human Rights.

### ■ Scope of the Basic Policy

The Basic Policy applies to all employees and officers of the J-POWER Group. We also encourage our business partners and suppliers to support the Basic Policy and to respect human rights.

### ■ Human Rights Initiatives

- At the J-POWER Group, we clarify who is responsible for implementing the Basic Policy and monitor the state of implementation.
- With a mechanism for human rights due diligence in place, we are committed to understanding the risks of having a negative impact on human rights and we work to prevent or reduce such risks.
- If it becomes clear that our business activities have had a negative impact or facilitated a negative impact on human rights, we will take appropriate measures to improve the situation.

- At the J-POWER Group, we have the highest respect for international human rights standards. We respect the following rights and dignities.
  1. Ban human trafficking, forced labor, and child labor
  2. Respect for the freedom of association and collective bargaining
  3. Administer appropriate working hours, eliminate excessive working hours
  4. Guarantee minimum wage and consider the living wage
  5. Ensure a healthy and safe working environment
  6. Protect personal information and privacy
  7. Prohibit all kinds of discrimination,\* harassment, bullying, and unfair treatment
- The series of initiatives based on the Basic Policy rely on the expertise of independent outsiders. We also consult in good faith with people who have been impacted by our business.
- We will periodically disclose information on the status of initiatives informed by the Basic Policy.
- We carry out appropriate training and education to ensure that the Basic Policy is integrated with our business activities and implemented effectively across the whole Group.

\* By discrimination we mean discrimination based on race, skin color, gender, language, religion, nationality, age, sexual orientation, gender identity, gender expression, disability, political or other opinions, national or social origins, assets, social standing of family, or any other status or similar grounds.

Established June 28, 2022



Toshifumi Watanabe  
Electric Power Development Co., Ltd.  
Representative Director  
President and Chief Executive Officer



## Respect for People

### Respect for Human Rights

We support international norms such as the International Bill of Human Rights, the ILO's International Labour Standards, the OECD Guidelines for Multinational Enterprises, the Human Rights Principles of the United Nations Global Compact and the United Nations Guiding Principles on Business and Human Rights.

Based on the J-POWER Group Basic Policy on Human Rights mentioned above, the J-POWER Group protects the basic rights of its employees, including the prevention of child labor and forced labor, protection of the right to freedom of association, protection of the right to collective bargaining, and compliance with minimum

wages. The Group also thoroughly prohibits discrimination in all its forms, including on the grounds of birth, nationality, race, creed, religion, gender, physical condition, and social status.

In relation to J-POWER employees, we have formed collective agreements between our company and its labor unions. In addition to consulting with the labor unions on important changes in working conditions, including salaries and bonuses, we hold discussions on management policy with labor unions once a year in order to reflect the opinions of employees in management policy.

### Human Rights and Compliance Initiatives

For over 10 years, J-POWER has provided training via a variety of opportunities in order to deepen understanding of the respect for human rights among its employees and give them knowledge of various types of harassment as well as on compliance. In addition, the Company is also actively involved in promoting diversity through such means as regularly holding lectures on themes like unconscious biases and entrepre-

neurship by persons with disabilities, and acquisition of appropriate knowledge on and promoting understanding of L.G.B.T.Q by inviting experts. Alongside the above, the Company conducts compliance surveys with the aim of regularly assessing employees' awareness of compliance as well as changes in the surrounding environment, utilizing this information in the development of future compliance policies.

#### FY2021 Implementation Status

Items	Overview	Participants
Level-specific training	Lectures on human rights, compliance, and various forms of harassment given during training for new hires and management training	332
Human rights and compliance training	Lectures on human rights, compliance, and various forms of harassment held for employees working in target institutions	226

### J-POWER Group and Human Resources

The J-POWER Group regards each employee as a "human resource" responsible for the sustainable development of the society and growth of the Company. The Group is developing human resources that can take on the challenges of

various management issues by supporting the independent growth of diverse human resources through the fostering of a culture in which employees can continue to learn regardless of age.

### Management Strategy and Human Resources Strategy

J-POWER has deemed human resources to be one of the specific initiatives for enhancing the business foundation as set out in the Medium-Term Management Plan. We will train human resources tackling management issues based on multiple expertise and wider perspective by supporting autonomous growth of various human resources to promote management strategies.

As specific measures to achieve the above goal, we are working to strengthen human capital based on the four pillars of flexible utilization of human resources, development of a system to support independent learning, ensuring the health and safety of employees, and creating a workplace environment that supports diverse work styles.

#### Developing human resources that can take on the challenges of various management issues

##### Creating workplaces which promote continuous innovation

###### Flexible utilization of human resources

- Allocating human resources in response to changes in the business environment
- Acquiring human resources with diverse capabilities

###### Ensure safety, improve health

- Establishing a work environment where safety is the top priority
- Promoting health and productivity management

###### Continuous autonomous learning

- Using on- and off-the-job training effectively
- Supporting autonomous career development, promoting the taking on of new challenges through open internal recruitment

###### Diverse work styles

- Introducing a system for retirement at the age of 65
- Making work hours flexible, promoting telework (working from home)

## Respect for People

### ■ Recruiting and Making Effective Use of Human Resources (Diversity & Inclusion)

#### Approach to Human Resource Recruitment

The J-POWER Group's approach is realizing stable recruiting in the interest of sustainable growth, seeking diverse human resources in a wide range of fields and age groups, and providing employees with opportunities to take an active part. In addition, we are engaged in creating systems and working environments that enable our diverse personnel to fully demonstrate their capabilities regardless of gender, nationality, work history, experience, age, or disability.

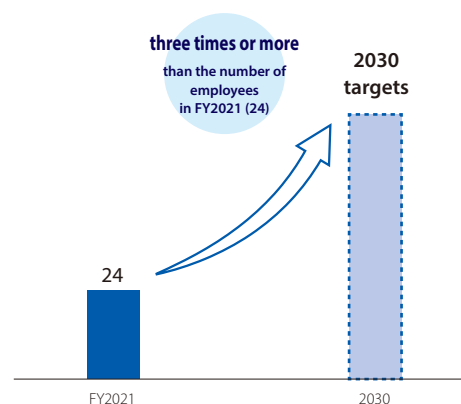
J-Power has positioned senior employees as core human resources among employees in a career-track position and established a goal of the number of female, foreign, and mid-career workers to be promoted up to 2030 in terms of achieving diversity, based on the principles of the Corporate Governance Code.

We will strengthen our initiatives for increasing opportunities for female employees to play more active roles and achieve more than threefold growth in the number of female senior employees in comparison to FY2021 (24 employees).

We are promoting the overseas business by utilizing locally employed workers in overseas subsidiaries of our overseas business, which has become one of our main operations, and will increase the number of foreign senior employees from FY2021 (147 employees) as our whole group, together with further expansion of the overseas business.

We had been actively engaged in recruiting mid-career workers from more than 30 years ago and further exerted our efforts from a viewpoint of sustaining diversity and employing human

#### ■ Appointment of women to senior roles

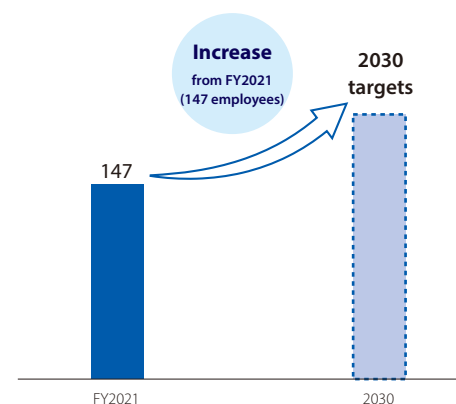


resources who can be immediately effective, especially lately. We will make the number of senior employees more than 1.5 times from FY2021 (110 employees) by continuingly endeavoring to achieve such recruitment.

#### Measures to Promote Diversity

With regard to the promotion of women's participation and advancement in the workplace, J-POWER had until now set the goal of at least 10% of new hires being women. As of April 2022, 16 (16.5%) of J-POWER's 97 newly recruited graduates were women. We have a high ratio of technical employees, and there tends to be a higher proportion of men when it comes to hiring new technical employees. We are therefore working to increase recruitment of female employees, promote diversity, increase productivity and competitiveness, leading to improved corporate value. For new graduate hires scheduled to join the Company in April 2023,

#### ■ Appointment of foreign nationals to senior roles

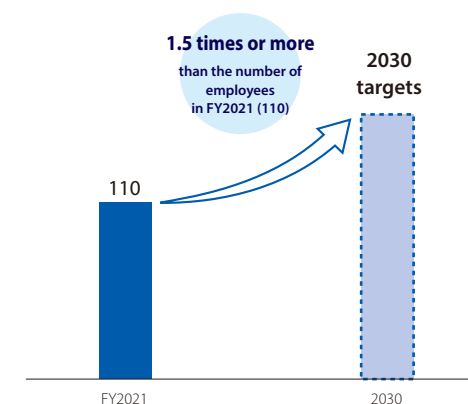


we have revised our target to double the ratio of women among new hires to 20% or more.

Looking at the employment of older workers, since April 2021, J-POWER is gradually raising its mandatory retirement age to 65. In combination with our existing employment extension system; and the personnel registration system (available up to the end of the fiscal year in which an employee reaches the age of 70), which introduces job opportunities in the Group; the additional service of senior personnel possessing experience, skills, and motivation to work, will be harnessed in the sustained growth of our business. As of the end of March 2022, there were 546 employees in the J-POWER Group using the employment extension and personnel registration systems.

Regarding employment of persons with disabilities, J-POWER's employment rate of persons with disabilities was 2.42% as of June 1, 2022. We are enhancing working environments and promoting

#### ■ Appointment of mid-career hires to senior roles



understanding among other employees through such initiatives as establishing a consultation desk where employees with disabilities can discuss employment assistance and working environments, as well as making office buildings barrier-free. We will continue making efforts to raise our employment rate of persons with disabilities. And in order to create a workplace where diverse human resources can play an active role, we established, in April 2022, an organization dedicated to the work of promoting diversity. This dedicated organization will enhance the consultation system for supporting career development during leave of absence and ensuring a smooth return to work so that female employees who have taken a break from their jobs because of childbirth and childcare can continue to work with peace of mind.

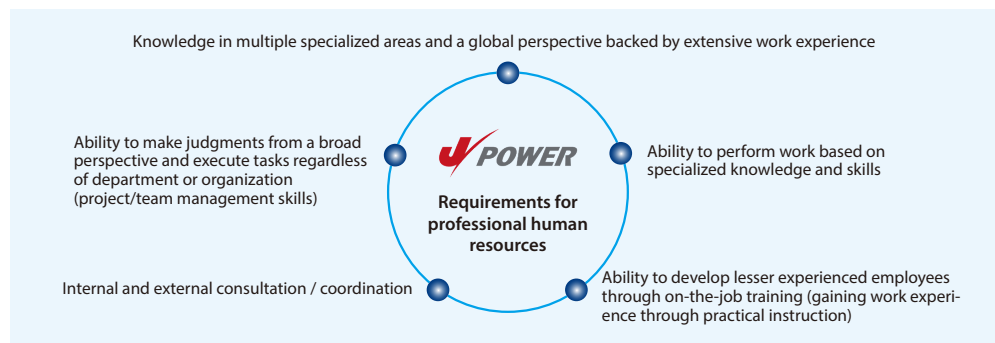
## Respect for People

Please also refer to the J-POWER Group Integrated Report 2022 ESG Supplementary Materials: Social  
<https://www.jpowers.co.jp/english/ir/51000.html>

### Human Resource Development

As a measure to develop human resources, the J-POWER Group has introduced a Career Development Program (CDP) with the vision of independent, self-starting professionals who can

take on the challenges of management issues with knowledge in multiple specialized areas and a broad perspective.

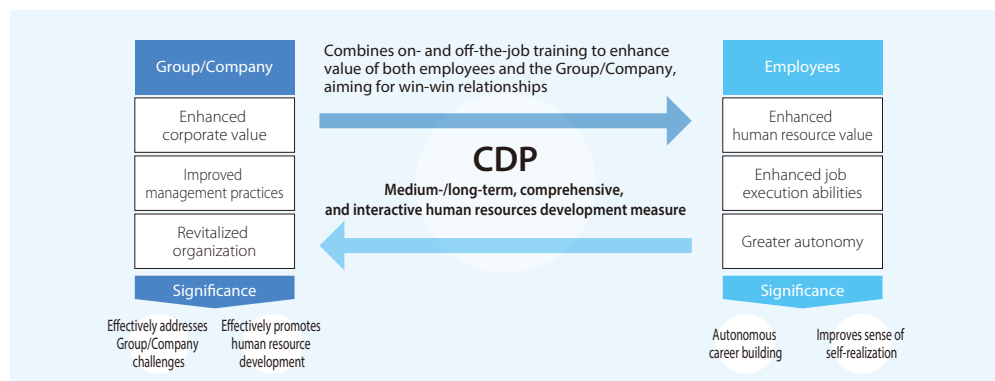


#### Overview of the CDP

The CDP is based on personnel requirements, job rotation, and career building support systems. Through initiatives implemented from a number of angles via human resource development measures combining on- and off-the-job

training, we aim to increase the value of both the Company and employees. We also have CDPs for women by job type as a reference for female employees to develop their careers in a responsible way, irrespective of temporarily

#### CDP Conceptual Diagram



taking a break from their jobs inevitably because of childbirth or any other events.

#### Personnel Requirements

The Group lays out the kinds of human resources that it needs as targets for its human resource development efforts, while employees use these targets as guideposts for their own career building and skill development efforts.

#### Job Rotation

The Company divides its employees' careers into three broad stages: the basic knowledge and skill acquisition stage, the expert stage, and the professional stage. Job rotation helps employees gain the abilities necessary for each stage.

#### Career-Building Support Systems

We have established systems to support employees' proactive efforts to develop their careers.

#### Declaration System

Every year, employees make a declaration to the companies about their future career outlook, based in part on an examination of their execution of work duties and abilities. The employee's manager discusses the declarations with the employee, offers advice as appropriate from a medium- to long-term human resource development perspective, and plans and implements employee rotations as needed.

### Evaluation and Management System

We have adopted a system to evaluate performance based on achievements by a goal management system, and demonstrating required job abilities in the pursuit of tasks. The system not only encourages employees in terms of

#### Training System

The Company implements training systems in step with each employee's career stage, required skills, career path, and personal motivation. These include level-specific training and department-specific training<sup>1</sup> as well as objective-specific training; self-improvement through distance or campus-based education; sending employees to study or work at universities, or other institutions, and selective leadership training. In addition, through various open internal recruitment systems<sup>2</sup>, we support independent, self-starting career building and taking on new challenges.

1. The technical departments (civil and architectural engineering; hydroelectric power; transmission and transformation; telecommunications; thermal power; and nuclear power) each have their own training facilities in order to systematically develop engineers  
 2. Open internal recruitment is used for sending employees to study or work at universities or other institutions in and outside Japan, participation in social issue-solving businesses in emerging countries, and in-house internships

Furthermore, on-the-job trainers and mentors are assigned to junior employees to support them in establishing themselves in the workplace and advancing their careers. Through these human resource development measures, in addition to the knowledge and skills necessary to do business, we are working to develop next-generation leaders, promote diversity (the active participation of diverse human resources), and promote more active participation for our older employees.

motivation to achieve and perform their duties, but also aims to achieve organizational strategies through independent and self-starting work in which employees cooperate based on organizational goals.

## Respect for People

### Department-Specific Training

#### Examples of International Department Initiatives

In promoting our overseas business, J-POWER holds training on topics such as legal compliance, crisis management, project finance, overseas energy movements, and business English for both administrative and technical employees.

In addition, we provide on-the-job training in our overseas consulting busi-

ness for our technical employees, acquiring expertise and technical capabilities through the design and supervision of the construction of power plants and electric power facilities overseas while at the same time utilizing these as opportunities for human resource development.



Inspecting shuttering for concrete



Inspecting execution of works



Carrying out a safety inspection



Patrol for safety

#### Examples of Renewable Energy Department Initiatives

As a measure to strengthen the human resource base that supports the wind power generation business, we are working on developing a wind power technology training program. We created and launched in June 2021 a program based on the idea of providing many people with the opportunity to learn about, at any time, practical wind power technology for development, construction, and maintenance purposes.

In addition to conventional group training, we provide a variety of learning opportunities, including on-demand (e-learning videos) training that gives flexible opportunities to join, as well as information on any external training as a chance to learn about the latest technological movements. In the future, we plan to expand the program with more advanced learning to cover such topics as technology in offshore wind power.



Construction of Kuzumaki Wind Power No.2



Nacelle demonstrated at Wakamatsu General Office



Wind power - Training by an on-demand video system



Wind power - Participation in an e-learning course



## Respect for People

### Example Human Resource Development Initiatives

#### Interview with Technical Employee Dispatched to the UK Offshore Wind Power Construction Project

## Utilizing the knowledge gained from the UK offshore wind power construction project for future offshore wind development in Japan and overseas



### Satoru Kasahara

Hibikinada Offshore Wind Farm Project Office  
(at the time of interview\*)

(Joined in 1996, civil engineering)

\* Seconded to Hibiki Wind Energy Co., Ltd. from April 2022

In August 2018, J-POWER participated in the Triton Knoll Offshore Wind Farm Project in the North Sea in the eastern part of the UK. I was stationed there from January 2019 to June 2021, dispatched as one of the technical employees involved in construction.

Project management was my main job at the site. Through talks and discussions with senior management and engineers, as well as site inspections, I was able to gain a lot of knowledge on everything from the design methods used for offshore wind farms and construction methods including how the wind turbines were installed using large workboats, to process management, construction management, and safety management methods involved in offshore work.

Compared to onshore wind power, offshore wind power covers much larger areas and facilities. And the design and construction of offshore equipment comes with a lot of uncertainty surrounding sea conditions, and other factors. Because of this, we completed as much of the assembly and other work as possible on land, and carefully checked the construction methods we would use at sea in advance. Europe has a wealth of experience in developing offshore wind farms because of the wind conditions, topography and

geology which are well suited for developing offshore wind power. As such, European standards have been established which cover established supply chains as well as the maturity of design, construction methods, and project management. I was able to gain some useful expertise on how we can proceed with developing offshore wind farms in the future.

I have had experience planning, designing, and building new hydroelectric power plants, but this was my first time to work on a wind farm. Yet, the basics of civil engineering work are the same for both the foundation work of offshore wind farms and the construction of hydroelectric power plants. When we have had discussions with project companies, there have been times when our expertise has helped move the project forward, for example, when giving advice to the project company on technical issues and how to proceed with project management by utilizing the experience and knowledge I previously gained.

I am now involved in a new offshore wind power project in Japan. We are preparing for the construction of an offshore wind farm in the port area off the coast of Hibikinada in Kitakyushu City. We plan to use large wind turbines in the Hibikinada offshore project each with a

unit output of 9.6 MW, which is the same capacity as the Triton Knoll Offshore Wind Farm.

The knowledge I gained in the UK has also been invaluable when considering issues related to the Hibikinada project. As well as regularly sharing internal information on the development of offshore wind power, I am working to share and impart knowledge through information exchange and discussions during training with junior employees. Looking to the future, J-POWER will be actively involved in the development of offshore wind power in Japan and overseas, including with the Hibikinada project. I would like to build on the knowledge gained from this project to use as our technical expertise, utilizing it for future development in J-POWER's Offshore Wind Power Business Dept. in Japan and overseas.



Carrying out a site inspection (Satoru Kasahara on the right, Julian Garnsey, Project Director of the partner company on the left)



## Respect for People

Please also refer to the J-POWER Group Integrated Report 2022 ESG Supplementary Materials: Social  
<https://www.jpowers.co.jp/english/ir/51000.html>

### Improving Environments to Create Dynamic Workplaces

#### Toward the Realization of Work-Life Balance

J-POWER is promoting the creation of a workplace environment and culture that enables every employee to independently enrich their work and personal life so as to focus on highly creative work. In order to enable employees involved in childcare and nursing in the home to work with peace of mind, we are enhancing and encouraging the use of our childcare and nursing care support programs and optimizing working hours, such as implementing a flextime system for employees working shortened hours or taking leave in hourly units for the purpose of childcare or caring for a loved one at home.

We have also given consideration to flexible career development through the introduction of a system that allows employees to take leave to accompany their spouse if transferred overseas for work. We will continue to revise these systems to make them easier to use, and strive to further improve the workplace environment.

#### Improving Labor Productivity

The J-POWER Group is promoting work reform with the aim of attracting diverse human resources and enabling each person to truly excel in their own ways. We have introduced policies to increase work efficiency as well as systems which support diverse work styles, such as revising the ways in which meetings are held and a so-called "swing-time" system for staggering working hours by up to two hours earlier or later in the day. In addition, we have implemented a telework system at Headquarters and at other operating units, supporting flexible working styles while at the same time utilizing it as a system for responding to incidents such as natural disasters.

#### Consultation Desk

Aiming to create employee-friendly workplaces, we have established a consultation desk where employees can discuss anything from their work hours and the workplace environment to harassment and maternity/childcare leave. The privacy of employees using this desk is assured. In order to prevent harassment, we have taken measures such as creating Group regulations and manuals, and we are implementing education for increased awareness via level-specific training courses, posters, and other such means. Further, we are training managers in each section on how to respond should harassment-related incidents occur as part of efforts to maintain a framework to respond to incidents appropriately. Regarding maternity leave and childcare leave, we explain our programs on an individual basis, or where necessary, talk face-to-face in response to consultations from employees.

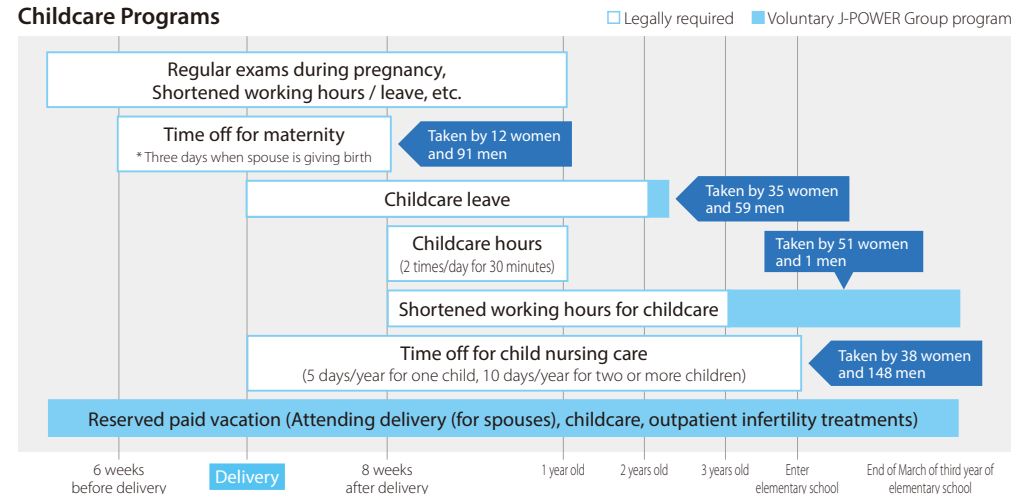
#### "Platinum Kurumin" Special Certification Mark

The Company has received "Kurumin" certification from the Minister of Health, Labour and Welfare, indicating it is a company which supports childcare. Moreover, we received the special "Platinum Kurumin" certification mark, which is awarded only to companies with measures that meet an even higher standard. In April 2022, we have set a message of 100% utilization of childcare leave to all employees and we will further improve the workplace environment to make it easier for them to take childcare leave. We will continue to improve our work environments so that all employees will be able to realize a good work-life balance and fully exercise their abilities.

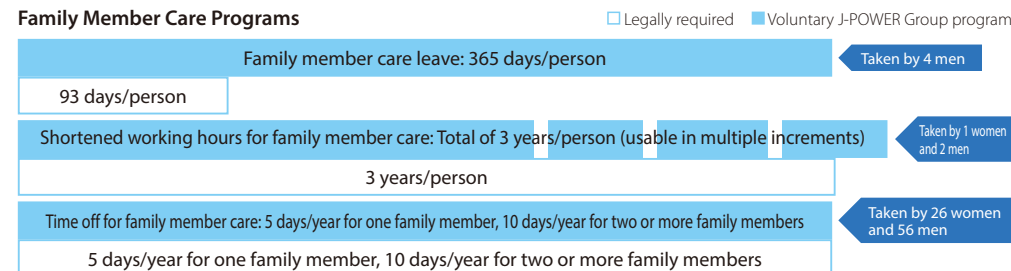


#### Overview of the Childcare and Nursing Care Support Programs and Results in FY2021

##### Childcare Programs



##### Family Member Care Programs



\* The above numbers reflect the total number of people who used the support programs in the that particular fiscal year.  
 \* In cases where more than one support program has been used by the same employee, it is counted in each system.  
 \* In cases where one support program is used for consecutive two years, it is counted in each year's result.

Reference:  
 No. of employees who gave birth in FY2021: 12  
 No. of employees whose spouse gave birth in FY2021: 128

### Employee Engagement

Since FY2021, the Company has been conducting an employee satisfaction survey targeting J-POWER employees. The aim of the survey is to gain a quantitative understanding of employee satisfaction (e.g. overall job satisfaction, corporate culture, working environment, treatment, welfare

measures, and other factors.) and comparing with other companies to ascertain the personnel and labor issues that need to be prioritized in the future. We will use the results of the survey for the purposes of attracting diverse human resources and enabling each to truly excel in their own ways.

# Occupational Health and Safety

Please also refer to the J-POWER Group Integrated Report 2022 ESG Supplementary Materials: Social  
<https://www.jpowers.co.jp/english/ir/51000.html>

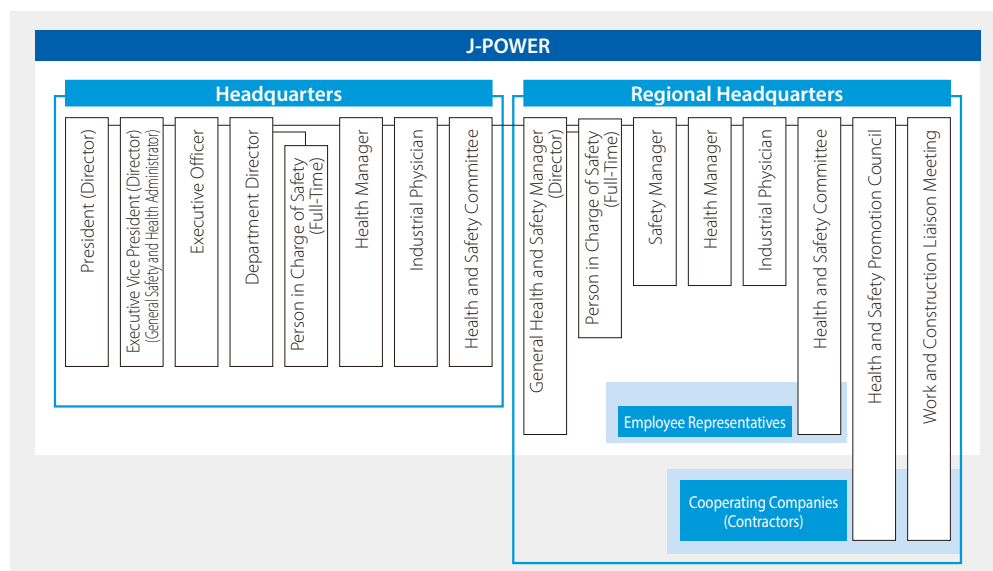
The J-POWER Group aims to create safe, healthy, and rewarding workplaces as the foundation of its business activities. In the area of respect for people, which is one of our material issues, we are also promoting initiatives to ensure occupational health and safety. J-POWER and other Group companies each have roles and responsibilities and collaborate on implementing health and safety management to prevent occupational accidents, including those of cooperating companies (contractors), and to maintain and improve the health of employees.

## Health and Safety Management Systems

Based on laws and regulations, the J-POWER Group engages in initiatives to prevent dangers and health hazards to workers primarily through health and safety committees at Headquarters, local operating units such as power plants, and construction sites. Health and safety committees are composed of a general health and safety manager, a safety manager, a health manager, an industrial physician, and representatives recommended by labor unions. Health and safety com-

mittees engage in pre-emptive risk assessment regarding matters such as work employees engage in, consider safety measures, and examine measures to prevent the recurrence of occupational accidents and health hazards that have occurred. Meanwhile, health and safety promotion councils coordinate with other Group companies and cooperating companies in order to advance health and safety initiatives for the power plant, and other locations as a whole.

### Health and Safety Management System



\* Since health and safety management systems differ depending on the work content and number of employees, etc. of each operating unit, this diagram shows a typical system at Headquarters and local organizations.

## Initiatives Based on the Group Operational Health and Safety Plan

The J-POWER Group has established a Group Operational Health and Safety Plan with individual Group companies formulating their own operational health and safety plans. The whole Group is working together in taking measures to promote

occupational health and safety.

FY2022 Group Operational Health and Safety Plan		
Major Targets	Operational Safety	No serious disasters
	Operational Health	Preventing infectious and lifestyle-related diseases and enhancing mental health care

## Occupational Accident Prevention Initiatives

Most of the occupational accidents in the J-POWER Group in recent years have occurred among contractors engaged in construction and other work. Many of these are recurring accidents that are serious or have the potential to become serious. It is therefore extremely important to promote unified safety activities that include partner companies to prevent and eliminate accidents involving contractors. To this end, under the slogan of creating more effective safety activities through the integrated consideration of facilities, management, and people, we have designated the following operational safety priorities—"Facilities: Discover potential dangers through means such as risk assessments, and promptly take provisional preventive steps and permanent countermeasures;" "Management: Pay attention to safety measures for construction and other work that falls under the paradigm of 3H ("Hajimete" [first time], "Henko" [difference from the previous time], "Hisashiburi" [first time in a while]), cross-sharing recommended initiatives and information about dangers at the Group and departmental levels;" and "People: Strengthen education and

training initiatives, such as in-house risk simulations, in order to improve the level of safety awareness through a common foundation for facilities, management, and people, leading to safe behavior that is conscious of how people act, for example, being too used to the work one does, overconfidence, or taking short-cuts." Based on these operational safety priorities, the J-POWER Group is focusing on the prevention of occupational accidents.

Furthermore, in light of the occurrence of serious accidents and the overall number of accidents generally remaining high in recent years, we aimed to cultivate and spread awareness of the utmost importance of safety and safe behavior at the J-POWER Group Health and Safety Convention. When we place a work order for construction with a contractor, we take into consideration such factors as work methods and scheduling in order to ensure a healthy and safe work environment.

The number of occurrences and nature of occupational accidents as well as analyses of the circumstances are reported to the Executive Committee and Board of Directors on a quarterly basis.

## Occupational Health and Safety

### Health and Safety Training

J-POWER implements health and safety training for Group companies at J-POWER Headquarters and local operating units for the purpose of improving the health and safety of the entire J-POWER Group. In addition, local operating units implement safety training suitable for their business operations, such as legally mandated training for new hires and employees newly transferred in, special training for work involving electricity, and training about relevant laws and regulations.

These units also implement mental health-related training on line-of-command care and self-care. Management-level employees, such as superintendents, and dedicated safety staff are required to participate in seminars and courses held by external organizations in order to improve their health and safety knowledge and management skills and to raise safety awareness. In FY2021, 746 employees participated in such training programs held by J-POWER Headquarters.

### Health and Safety Management with Regard to Radiation

The Group is currently proceeding with the construction of the Ohma Nuclear Power Plant in Oma Town, Shimokita District, Aomori Prefecture. Currently, construction of the Ohma Nuclear Power Plant is still underway and there is no danger of

employees and workers being affected by radiation. However, we are planning to establish a health and safety management system related to radiation by the time that it becomes necessary.

### Maintaining the Physical and Mental Health of Employees and Their Families

Led by health and safety committees, we promote health checkups and health maintenance guidance, and take infectious disease prevention measures to maintain and improve the health of employees and their families. With an emphasis on prevention against lifestyle-related diseases and mental health problems, we aim to maintain and improve the high consultation rate (90% or more) especially with regard to comprehensive medical checkups. As such, we are promoting mental and physical health by conducting stress checks and various follow-ups based on the results, conduct-

ing specific health checkups and health guidance, and activities to maintain and promote health.

#### Promoting Health & Productivity Management

Under the slogan "From treatment to prevention," J-POWER promotes health management by engaging in health maintenance and improvement activities while being cognizant of the PDCA cycle. In FY2021, we also provided influenza vaccinations at the company's expense, and in order to reduce the burden on local communities where COVID-19 vaccinations are required and to help speed up the vaccination program, we provided the space for

people to get their vaccinations in the workplace.

In recognition of these efforts, J-POWER was certified in FY2022 for the fourth consecutive year as a Health & Productivity Management Outstanding Organization in the large enterprise category by the recognition program jointly implemented by the

Ministry of Economy, Trade and Industry and the *Nippon Kenko Kaigi* (Japan Health Council). Going forward, we will continue accelerating the pace of our health management initiatives and aim to further enhance corporate value through the improved health and satisfaction of our employees.

### Basic Policy on Occupational Health and Safety

The Company aims to create safe, healthy, and rewarding workplaces for the J-POWER Group.

The Company and general directors of operating units fully play their parts in establishing and operating a robust occupational health and safety management system with the cooperation of employees and all concerned while remaining in compliance with laws, regulations, and self-defined rules. We also work to promote overall safety management and improve the health and safety standards of the J-POWER Group. Through these measures, we prevent occupational accidents and maintain and promote health.

#### Creating Rewarding Workplaces

The Company works to create rewarding workplaces that enable each and every J-POWER Group employee to realize health and self-fulfillment by ensuring, maintaining, and improving workplaces that are safe and comfortable to work in.

#### Compliance with Laws, Regulations, and Other Rules

The Company complies with external and internal rules, including the relevant laws, regulations, and internal Company regulations, and endeavors to prevent occupational accidents as well as to maintain and promote health in the J-POWER Group.

#### Improvement of Health and Safety Management

The Company and general directors of operating units establish and operate a systematic, efficient occupational health and safety management system by supervising safety managers, health managers, and those in charge of safety at the operating units and by gaining the cooperation of employees and all others concerned, thus working to improve the level of health and safety in the J-POWER Group.

#### Responsibilities of Management

The Company and general directors of operating units recognize their responsibility to realize this basic policy, to this end taking the initiative to set an example for those that follow while keeping the relevant parties thoroughly informed of this basic policy.

When a situation arises that runs contrary to this aim, the Company and the general directors of operating units will take the initiative to solve the problem while working to investigate the cause, prevent recurrences, clarify the root causes, and take appropriate measures.

# Local Communities Engagement

For details, please refer to the J-POWER website.

<https://www.jpowers.co.jp/english/sustainability/environment/activities/>

The J-POWER Group's operations center mainly on businesses such as the power generation and power transmission businesses involving the construction of large-scale facilities as well as their long-term maintenance and operation. Accordingly, we seek to build positive relationships with the people and communities connected to our business activities, achieving a state in which both parties depend on each other. Engagement with local communities is one of our material issues for which we are taking initiatives towards addressing.

## Addressing Local Environment Issues

The J-POWER Group sets out environmental considerations for every stage of its businesses and engages in environmental conservation initiatives that draw on the latest technologies and knowledge.

### Reducing Emissions of Environmentally Harmful Substances

To reduce emissions of environmentally harmful substances such as sulfur oxides (SOx), nitrogen oxides (NOx), and soot at thermal power plants and other facilities, we engage in high-efficiency control of emissions through improvement of combustion methods and through appropriate operation and management of desulfurization and denitrification systems, electrostatic precipitators, and other flue gas treatment equipment. This

equipment operates automatically with the aid of measurement devices that continuously monitor the status of flue gas. We use 24-hour monitoring by human operators to confirm that emissions do not exceed benchmark values specified by the Air Pollution Control Act and environmental protection agreements, and have readied systems for swiftly responding to anomalies.

Emissions of SOx and NOx from thermal power plants that we operate are shown in the table below. The figures are low by international standards.

### Creation of a Recycling-Oriented Society

#### • Maintaining and Improving the Industrial Waste Recycling Rate

The J-POWER Group's target industrial waste recycling rate is 97%. The total amount of industrial waste

generated in FY2021 was 1.98 million tons, with a recycling rate of 97.7%.

#### • Making Effective Use of Coal Ash and Gypsum

The J-POWER Group's industrial waste consists of 97% coal ash and gypsum from thermal power stations.

We recycle 98.3% of coal ash produced in coal-fired thermal power generation, mainly as material for making cement and for land reclamation. We recycle 97.3% of the gypsum and 100% of sulfuric acid produced as byproducts of emissions desulfurization.

#### • Reduction of waste plastic emissions and recycling of resources

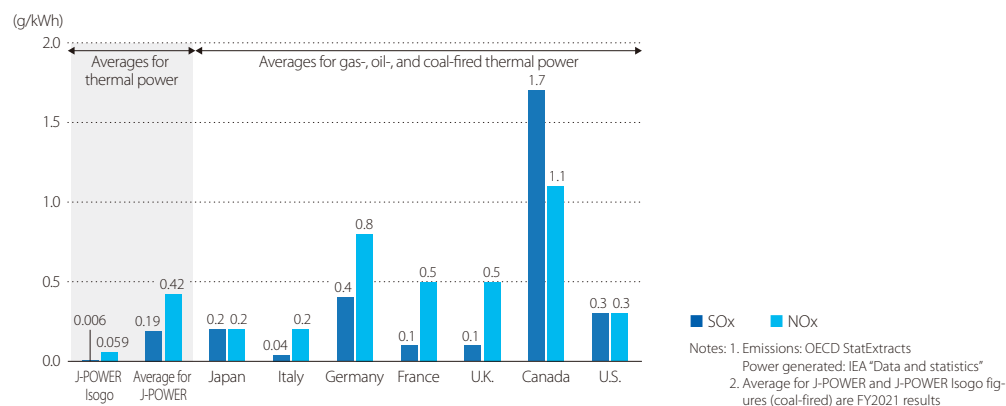
The J-POWER Group is making efforts to separate waste plastics and promote the 3Rs of reduce, reuse, and recycle.

As an initiative to address the issue of marine plastic pollution and the recycling of plastic resources.

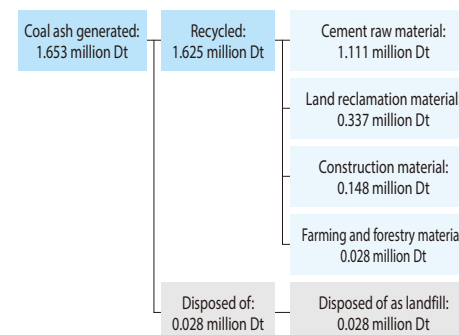
### Environmental Impact Assessment

Before building or expanding power plants, we conduct environmental impact assessments in accordance with applicable laws and regulations and implement adequate environmental preservation measures, taking the opinions of local residents into consideration. After a power plant becomes operational, we carry out ongoing monitoring in accordance with environmental protection agreements entered into with relevant local governments to ensure that our environmental preservation measures are effective. Currently, 24 projects are in the process of environmental impact assessment (as of July, 2022).

## International Comparison of SOx and NOx Emissions Intensity for Thermal Power Generation



## Breakdown of Coal Ash Recycling (displacement tons)



Note: Sums of figures may not equal totals due to rounding.

### Preservation of Aquatic Environments

The J-POWER Group has set the preservation of aquatic environments as a J-POWER Group Environmental Targets. In line with this, we engage in environmental preservation measures aimed at rivers and seas, based on the specific regional environments and characteristics of our business sites.

- Hydroelectric power stations: Measures concerning water quality and the accumulation of silt in dam lakes and downstream areas; etc.
- Thermal power stations: Management of effluent released into nearby seas in accordance with applicable laws and regulations; etc.



## Local Communities Engagement

### Preservation of Biodiversity

During the planning and design stages of power generation facilities, we incorporate environmental preservation measures to mitigate the impact on surrounding ecosystems and environments where plants and animals live and grow, based on the results of environmental impact assessments. We strive to preserve plants and animals that live and grow in the vicinity of operating power plants, particularly rare species and their habitats. These measures are tailored to local environments and characteristics. For example, every effort is made to avoid outdoor work during the nesting season of the Japanese golden eagle and other endangered birds that live in the vicinity of the Okutadami Dam and Otori Dam. Another example is the restoration, maintenance, and management of marshes that became landfill areas when the Okutadami Dam was expanded.

In addition to proper conservation of the forests we own near our hydroelectric power facilities throughout Japan, the J-POWER Group contributes to forest preservation and the reduction of CO<sub>2</sub> emissions through efforts to combust coal together with biomass fuel pellets, made from forestry offcuts, at coal-fired thermal power stations.

### Ensuring Transparency and Reliability

In carrying out environmental conservation activities based on the J-POWER Group Basic Environmental Policy, the J-POWER Group has introduced an environmental management system (EMS) based on the ISO 14001:2004 standard of the International Organization for Standardization and the JISQ 14001:2004 standard of the Japanese Industrial Standards at all of our business sites to improve the level of environmental management and to ensure full compliance with all laws and agreements.

We also actively engage in environmental communication activities with our local communities.

### Improvement of Environmental Management Level

The J-POWER Group is working to continuously improve its environmental management level through the formulation of an environmental action plan, the periodic assessment and evaluation of initiatives, and revision of initiatives (PDCA management cycle) based on the J-POWER Group Environmental Action Guidelines, which are revised annually by J-POWER's management.

In addition, the J-POWER Group endeavors to raise awareness of and deepen understanding of environmental issues among employees so as to share sense of personal responsibility by promoting environmental education using such means as online classes and e-learning, and encouraging the exchange of information between the headquarters and the people on the front line.

### Full Compliance with Laws, Regulations, Agreements, and Other Rules

As well as fully complying with all laws, regulations, and agreements applicable to our business activities, we are making efforts to improve our facilities and operations in order to limit the impact of our business activities on the surrounding environment. And through site visits to local organizations with the help of waste disposal consulting firms, we are working to maintain proper waste management and improve the competence and awareness of our employees.

Regarding the management of environmental incidents, based on our environmental management systems, we make every effort to prevent environmental incidents before they occur and to minimize harm if they do occur. We have in place a notification framework for the occurrence of environmental incidents, under which we notify local agencies concerned as well as the J-POWER Headquarters Emergency Response Team and related departments.

The J-POWER Headquarters Emergency Response Team promptly notifies top management and, in the interest of information disclosure, releases information on emergencies to the media and other relevant parties. We also devise measures to prevent recurrences. In FY2021, there were 2 environmental incidents that were reported through the mass media.

### Engagement with Local Communities and Social Contribution Activities

Based on the J-POWER's Thoughts on Social Contribution Initiatives, as a good corporate citizen, the J-POWER Group proactively engages in social contribution activities, including supporting culture and the arts, cooperating with local communities, supporting participation in volunteer activities, and contributing to international society. Through such efforts, the Group seeks to contribute to social development.

See our website for the J-POWER's Thoughts on Social Contribution Initiatives

<https://www.jpowers.co.jp/english/sustainability/contribution/policy.html>

### Social Contribution Activities

For our social contribution activities in FY2021, we implemented a variety of initiatives that included the following programs.

Program	Participated in the "Wind Class" (Kumamoto Prefecture)
Overview	The J-POWER Group conducts a variety of social and cooperative activities with local communities at its power plants and transmission line engineering offices, etc., throughout Japan. In Kumamoto Prefecture, the wind power companies of J-Wind and J-Wind Service are taking the lead in holding the "Wind Class" where elementary school students from Nishihara Village and Otsu Town can get the opportunity to visit wind turbines in the area and fly kites.
Target	Elementary schools in Nishihara Village and Otsu Town
Partners	Local government and organizations, etc.
Number of participants, etc.	approximately 100 participants in total



## Local Communities Engagement

### Contributing to Regional Revitalization through the Operation of Okutadami Kanko

The J-POWER Group is involved in the operation of Okutadami Kanko Co., Ltd., a joint business with the government of Uonuma City in Niigata Prefecture, for the purpose of promoting engagement with the local community and contributing to society through tourism. Okutadami Kanko has continued to engage in activities rooted in the regional community around the power station together with local government members up to the present day. Okutadami Kanko's origins date back to 1962 when an outdoors school was opened to serve as a space for local youth education after the Okutadami Power Plant located near the border between the prefectures of Fukushi-

ma and Niigata began operation. At the same time, Okutadami Kanko launched a tour boat business which made a major economic impact on the region. In 1979, Okutadami Kanko started operating the Okutadami Maruyama Ski Resort. In addition, the Lake Okutadami tour boat won 10th place in the "Top 30 Sightseeing Boats Chosen by Professionals" event (announced in December 2021) held for the fifth time and sponsored by Ryoko Shimbun-Shinsha (the Travel Newspaper). Through Okutadami Kanko, the Group will continue to promote engagement with the people of the community around the power station and contribute to the revitalization of the area.

#### Number of Customers in FY2021

The tour boat	approximately 37,000
Okutadami Maruyama Ski Resort	approximately 22,600



The tour boat



Okutadami Maruyama Ski Resort

### Community Development Activities in Indonesia (the Central Java Project)

The J-POWER Group is currently moving forward with the Central Java Project in Indonesia, building a 2,000 MW coal-fired thermal power plant which will be a model for highly efficient, environmentally friendly power generation. The J-POWER Group, through PT. Bhimasena Power Indonesia (BPI), provides various supporting activities so that the local community in the area affected by the project can be independent and grow sustainably. As a result of BPI's execution of these activities in accordance with the needs of local residents and municipal governments based on the feedback they provided regarding activity selection and implementation, BPI has received a number of awards both within and outside of Indonesia for the outstanding quality of the activities.

#### Specific Initiatives

- **Economic activity support**  
Supporting small businesses (laundries, tailors, etc.) run by local resident groups, as well as local microfinance (providing equipment, training, etc.)  
Support provided for 203 groups and 2,900 individuals as of 2021
- **Medical support**  
Providing supplemental food for infants and the elderly at village clinics, providing medical kits, training medical volunteers, and providing healthcare equipment

- **Educational support**  
Supporting the Indonesian government's environmental education program, carrying out training and various programs mainly at local schools
- **Infrastructure improvement support**  
Setting up public toilets, renovating mosques, setting up a medical clinic, repairing roads, etc.  
Providing soap, masks, and disinfectant to prevent infection by COVID-19  
620 projects implemented as of 2021
- **Social, cultural, and environmental support**  
Recycling activities, coastal tree planting in cooperation with Batang Red Cross, supporting mangrove re-planting, installing artificial fish reefs with fish reef blocks, town cleanup activities, etc.

#### Major Awards in Recent Years

- 2021
  - Adiwiyata School Award for SDN Ujungnegoro 01 in Ujungnegoro village (National level) in 2021
  - BPI assisted MFI Berkah Jaya Ponwareng received 3rd best most financially healthy MFI/cooperative in Batang from Bupati Batang in 2021
- 2020
  - TOP CSR Award 2020
  - Indonesia CSR Awards (ICA) 2020
  - Nusantara CSR Award(N-CSR-A)2020



Receiving the Adiwiyata School Award

# Corporate Governance

## Basic Policy

In accordance with its Corporate Philosophy, the J-POWER Group endeavors to enhance corporate governance on an ongoing basis in order to realize sustainable growth and improve corporate value over the medium- to long-term. The Group believes that sustainable growth and the enhancement of corporate value over the medium- to long-term can be achieved only in cooperation with a wide range of stakeholders. One important group of stakeholders is shareholders. The Company respects shareholder rights in order to allow for proper collaboration with shareholders. The Group also strives to engage in dialogue with stakeholders in order to build relationships of trust with all of them.

J-POWER has established the Basic Policy on Corporate Governance, establishing its basic policy and stance with regards to corporate governance. For more information about the Company's Basic Policy on Corporate Governance, please refer to the J-POWER website.

<https://www.jpowers.co.jp/english/sustainability/governance/pdf/cg2206.pdf>

## Ensuring the Rights and Equality of Shareholders

The Company's policy regarding shareholder rights, such as voting rights at the general meeting of shareholders, is to respect such rights and ensure the substantial equality of shareholders. In addition, the Company gives consideration to ensuring that the special rights that are granted to minority shareholders are upheld with regard to confronting listed companies and their officers (including the

right to seek an injunction against illegal activities and the right to file a shareholder lawsuit).

## General Meetings of Shareholders

The Company provides shareholders with information that it believes to be useful for appropriate decision making at general meetings of shareholders. To this end, it is constantly striving to improve the content of notice of annual meeting of shareholders, reference materials, and business reports. It also provides information via financial results, timely disclosure materials, and disclosure via its website, as needed.

The Company sends a notice of annual meeting of shareholders around three weeks prior to the meeting date to ensure that shareholders have sufficient time to consider the proposals to be put before the meetings and enable them to appropriately exercise their voting rights. The Company also discloses information included in the notice online in both Japanese and English prior to sending the notice. Moreover, the Group strives to avoid scheduling the general meeting of shareholders for the date most crowded with other companies' shareholder meetings.

## Strategic Shareholdings

J-POWER does not maintain strategic shareholdings unless such shareholdings are deemed to serve a purpose.

For details, such as the purpose of any shareholdings, please see our website.

<https://www.jpowers.co.jp/english/sustainability/governance/governance.html>

## Transition to a Company with an Audit and Supervisory Committee

J-POWER has transitioned to a company with an Audit and Supervisory Committee upon approval at the 70th Ordinary General Meeting of Shareholders held on June 28, 2022.

The Board of Directors delegates the decisions of important business to Directors to enable speedy execution. At the same time, the Company is further improving the transparency and fairness

of its management and strengthening its supervisory function by increasing the number of Independent Directors with voting rights on the Board of Directors and through the establishment of the Audit & Supervisory Committee which has the right to express opinions on Director nominations and compensation.

## Changes to Strengthen Corporate Governance

- FY2004 ○ Fully privatized by listing on the First Section of the Tokyo Stock Exchange
- FY2006 ○ Strengthened the Audit & Supervisory Board Member system (Transitioned to a system of three independent Audit & Supervisory Board Members)
- FY2009 ○ Invitation of independent director (Ratio of independent directors 1/14)
- FY2014 ○ Transitioned to a two-person independent director system (Ratio of independent directors 2/13)
- FY2015 ○ Established basic policy on corporate governance  
Started of evaluation on the effectiveness of the Board of Directors
- FY2016 ○ Transitioned to a three-person independent director system (Ratio of independent directors 3/14)
- FY2019 ○ Expansion of the executive officer system (clarification of business execution functions)  
Established the Nomination and Compensation Committee
- FY2022 ○ Transitioned to a company with an Audit and Supervisory Committee (Ratio of independent directors 6/16)  
Introduction of performance-linked remuneration, and stock-based remuneration

## Corporate Governance

### Composition of the Board of Directors and the committees

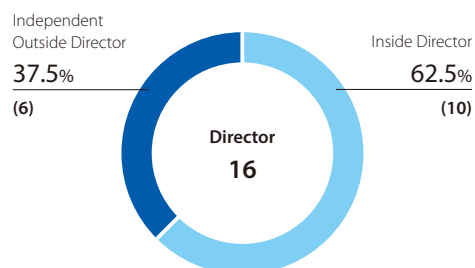
#### Composition of the Board of Directors

The Board of Directors is composed of Directors with abundant experience, deep insight and highly specialized knowledge to maintain balance and diversity in the knowledge, experience, and abilities of the Board of Directors as a whole. The Board is composed of no more than 12 Directors (excluding those who are members of the Audit & Supervisory Committee) and four Directors who are members of the Audit & Supervisory Committee.

To ensure the effectiveness of the independent and objective management supervision by the Board of Directors, the Company endeavors to appoint at least one-third of Independent Outside Directors selected for their experience, knowledge, specialization, and other attributes.

Currently, the total number of Directors is 16, including six Independent Outside Directors.

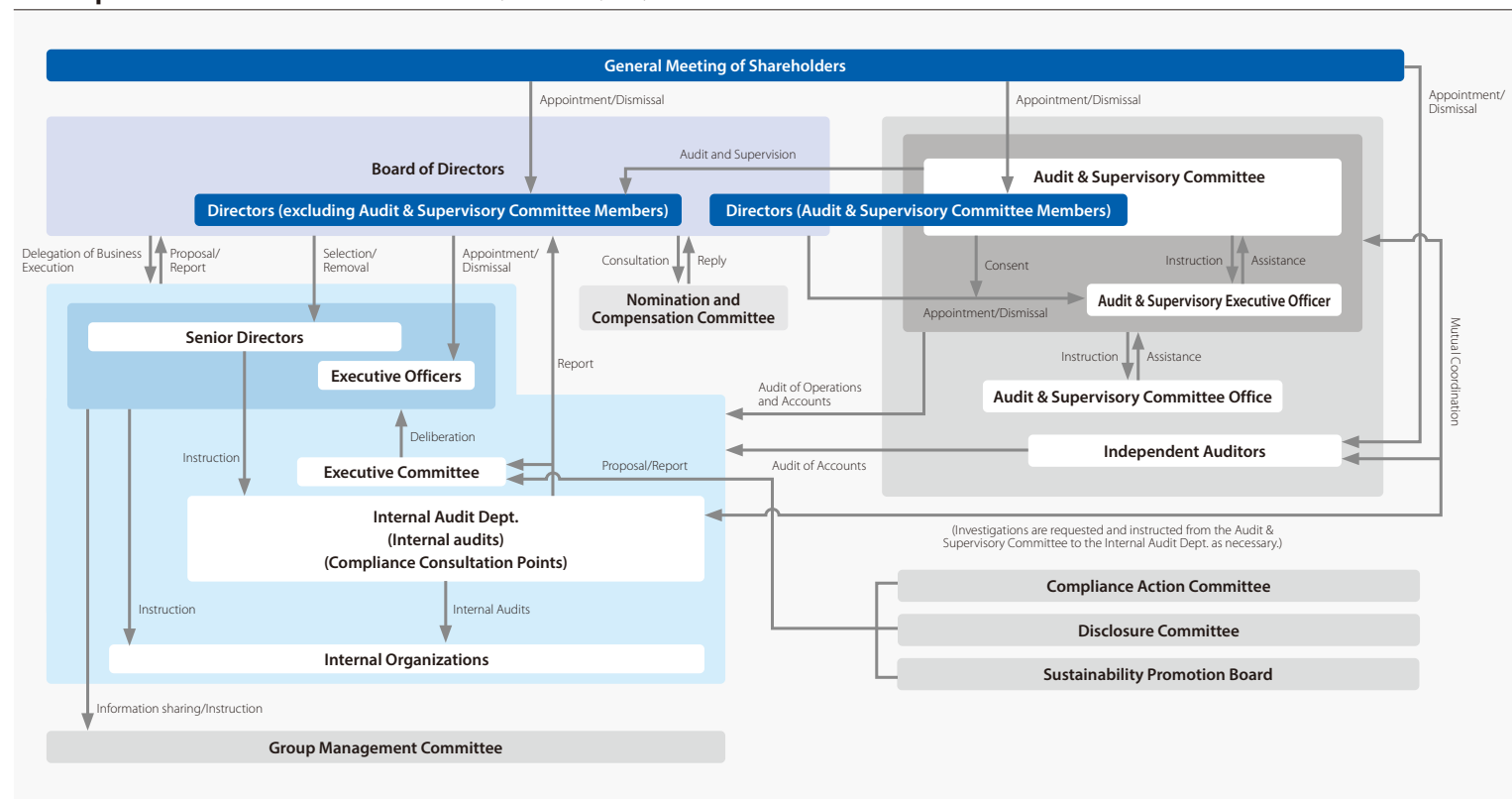
#### Composition of the Board of Directors



#### Composition of the Audit & Supervisory Committee

The Audit & Supervisory Committee is composed of no more than four Directors who are Audit &

### Corporate Governance Structure (As of June 28, 2022)



Supervisory Committee Members, the majority of whom are Independent Outside Directors with two full-time Audit & Supervisory Committee Members selected. At least one person with appropriate knowledge of finance and accounting is appointed as an Audit & Supervisory Committee Member. The effectiveness of audits is enhanced by combining the strong independence derived from the Committee's composition with the full-time Audit and Supervisory Committee Members' strong capability to gather information.

#### Composition of the Nomination and Compensation Committee

The Company established a Nomination and Compensation Committee, more than half the members of which are Independent Outside Officers, to enhance the independence, objectivity and accountability of the Board of Directors with regard to the nomination and compensation of Directors and senior management. In addition, the regulations stipulate that Committee members who have a special interest in agenda items can-

not participate in any related vote or resolution.

#### Composition of the Nomination and Compensation Committee

Independent Director 3

Chairman: Go Kajitani, Independent Director  
Hiroshi Fujioka, Independent Director, Audit & Supervisory Committee Member  
Kiyoshi Nakanishi, Independent Director, Audit & Supervisory Committee Member

Inside Director 2

Hitoshi Murayama, Representative Director, Chairman  
Toshifumi Watanabe, Representative Director, President

## Corporate Governance

### System for the Execution of Directors' Duties

#### Ensuring Effectiveness of Business Execution

The Board of Directors meets monthly in principle\* and on an as-needed basis, with attendance of all of the Directors, including Independent Directors. The Executive Committee meets weekly in principle, with attendance by all Senior Directors, Senior Executive Officers, and full-time Audit & Supervisory Board Members. This committee discusses matters subject to deliberation by the Board of Directors, significant company-wide matters related to business execution by the President and Executive Vice Presidents based on policies decided by the Board of Directors, and important matters related to individual business execution.

In addition to the Board of Directors' appointing of certain decision making responsibilities for the execution of important business to Senior Directors in accordance with the Articles of Incorporation (excluding respective items in paragraph 5 of Article 399-13 of the Companies Act), as well as allocating functions by the Board of Directors and the Executive Committee, the Company clarifies responsibility and authority thereby ensuring accurate and prompt decision-making and efficient corporate management by establishing a system in which Executive Officers, to whom authority is delegated by Senior Directors, share responsibility for business execution.

\* The Board of Directors met 12 times during FY2021.

#### Ensuring Appropriateness in Business Execution

The Company has established an Internal Audit Department to ensure proper business execution and conducts internal audits from a position independent from

the other operating units. Each operating unit also conducts periodic self-audits of the execution of business in its unit. In addition, important internal audit results are reported to the Board of Directors and the Executive Committee, etc., to ensure cooperation between the Internal Audit Department, Directors (excluding Director who are Audit & Supervisory Committee Members), and the Audit & Supervisory Committee.

#### Preventing Conflicts of Interest

The Directors of the Company, in accordance with its Corporate Philosophy, Corporate Conduct Rules, and Compliance Action Guidelines, exemplify honest and fair conduct based on a steadfast spirit of compliance and business ethics. In addition, the Company works to prevent conflicts of interest in the event that the Company engages in a transaction with a Director or a major shareholder\* by obtaining the approval of the Board of Directors before executing the transaction and reporting the results of the transaction to the Board of Directors.

\* Shareholders with shares representing 10% or more of the voting rights in the Company

### Audit System

The Audit & Supervisory Committee was established in accordance with the Companies Act to audit the legality and appropriateness of the execution of duties by directors. Audit & Supervisory Committee Members conduct audits at J-POWER's Headquarters by attending important meetings of the Board of Directors and by interviewing the Directors (excluding those who are members of the Audit & Supervisory Committee) and Executive Officers on the status of the execution of duties. The Audit & Supervisory Committee also carries out site visits to local operating units and subsidiaries in Japan and overseas.

As a system to assist the Audit and Supervisory Committee Members in their audits, etc., the Company has established an Office of Audit & Supervisory Committee Members and appoints Audit & Supervisory Executive Officers. Audit & Supervisory Executive Officer who is well-versed in the Company's business is independent from the chain of command of the Directors who are not Audit and Supervisory Committee Members, and assists the Audit and Supervisory Committee with audits, etc. under the direction of the Audit and Supervisory Committee from the same perspective as the Audit and Supervisory Committee Members. In this way, the Audit and Supervisory Committee and the Internal Audit

Department cooperate and audit the executive department more effectively. Full-time specialist staff working in the Office of Audit and Supervisory Committee Members, which is also independent from the Directors' chain of command, assist with audits and other matters conducted by the Audit and Supervisory Committee.

Audit & Supervisory Board Members coordinate auditing schedules with those of the Internal Audit Department and implement audits while exchanging information on audit results during the fiscal year. Where necessary, the Audit and Supervisory Committee instructs the Internal Audit Department on reporting, investigations, and other matters. As a result, we are strengthening mutual cooperation between the Audit and Supervisory Committee and the Internal Audit Department, working to enhance the use of the internal control system in the Audit and Supervisory Committee.

During the accounting audits, the Audit & Supervisory Committee liaise with the Independent Auditors to regularly receive reports and exchange opinions regarding auditing schedules and the audit results. This enables the Audit & Supervisory Committee to judge the validity of the auditing method of the Independent Auditors and the results of the audits.

### Group Governance

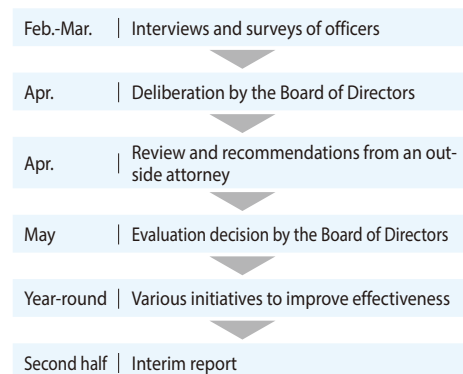
With regard to the administration of subsidiaries and affiliates, the J-POWER Group's basic policy calls for group-wide business development in accordance with the Group's management plan. The administration of subsidiaries and affiliates is undertaken in accordance with the Company's internal regulations, and the Group

Management Committee works to improve the appropriateness of operations for the entire corporate Group. In addition, the Audit & Supervisory Board Members and the Internal Audit Department implement audits of subsidiaries and affiliates with the objective of ensuring proper operations at all Group companies.

## Corporate Governance

### Evaluation of Effectiveness of the Board of Directors

The Company analyzes and evaluates the effectiveness of the Board of Directors on an annual basis.



#### FY2021 Initiatives

The analysis and evaluation of the previous fiscal year found promoting initiatives “to further enhance the quality of Board of Directors’ discussions” and “to ensure speedy execution” were effective for further improving the effectiveness of the Board of Directors. Accordingly, the Company focused on the following initiatives in FY2021.

#### Further enhancing the quality of Board of Directors discussions

- Held new small meetings among independent officers, executive officers, and related divisions as an opportunity for a more frank exchange of opinions
- Participation of the executive officer in charge at advance briefings for Independent Directors on board meeting agenda items
- ...and more

#### Measures to ensure speedy execution

- Ongoing discussion on the corporate governance structure
- Creation of a flexible decision-making structure through the establishment of a cross-sectional organization for hydrogen and Carbon Capture and Storage (CCS)

#### Evaluation Method

As for the evaluation method for FY2021, interviews and questionnaires were conducted with all officers, including independent officers, in February and March 2022. The aggregate results were discussed at the meeting of the Board of Directors held in April 2022. Based on the results of the evaluation, and after being reviewed by and receiving recommendations from an outside attorney, the following decisions were made at the meeting of the Board of Directors held in May 2022.

#### Evaluation Results

The priority initiatives and ongoing efforts promoted in FY2021 were evaluated as effective from the following perspectives. Based on these findings, we evaluated that the effectiveness of the Board of Directors as a whole has been ensured.

- The holding of small meetings and advance briefings by the executive officer in charge led to more active communication between internal and external officers and the promotion of understanding by external officers, which contributed to substantive discussions
- Continued discussions on our corporate governance structure (including discussions on the nature and

composition of the Board of Directors) led to the decision to transition to a company with an Audit & Supervisory Committee

- The quality of discussions has been further enhanced through the exchange of opinions and informal discussions outside of meetings of the Board of Directors, the timely provision of materials for Executive Committee meetings to Independent Directors, and other previous efforts

On the other hand, amidst the drastic changes in the business environment surrounding the Company, there were some comments, especially from independent officers, requesting action with respect to the following:

1. Further enhancement of discussions on management strategy (including sustainability initiatives)
2. Accurate reflection of the Board of Directors’ discussions in business execution
3. Further improvement to the operation of meetings of the Board of Directors (devising ways to enhance deliberations by the Board of Directors based on advance briefings, etc.)
4. Steadily implement the transition to a company with an Audit & Supervisory Committee

#### Policy for FY2022

In light of the transition to a company with an Audit & Supervisory Committee, in FY2022 the Company affirmed that it would be effective to focus on the following measures:

1. Further enhancement of discussions on management strategy (including sustainability initiatives)

- Further enhance the quality and quantity of discussions in response to changes in the business environment
- ...and more

#### 2. Accurate reflection of the Board of Directors’ discussions in business execution

- Further promote business execution that is not limited to conventional perspectives, appropriately taking into account the advice and suggestions of independent officers

#### 3. Further improvement to the operation of meetings of the Board of Directors (devising ways to enhance deliberations by the Board of Directors based on advance briefings, etc.)

- Further enhance explanations of proposals and reports by Directors in charge in the form of Q&A sessions during advance briefings
- Improve the quality of materials submitted for discussion (preparation of materials that more clearly clarify the issues to be discussed by the Board of Directors, etc.)
- ...and more

#### 4. Steadily implement the transition to a company with an Audit & Supervisory Committee

- Review executive authority, including the delegation of important business execution decisions
- Consider reporting on Directors’ execution of duties to further enhance the supervisory function
- ...and more

The Company will continue to strive to improve the effectiveness of the Board of Directors through ongoing and further initiatives in addition to further enhancement of discussions at meetings of the Board of Directors.



## Corporate Governance

### Appointment and Dismissal of Officers

The Board of Directors appoints as members of top management and nominates as candidates for Director and Audit & Supervisory Board Member individuals who have the abundant experience, distinguished knowledge, and advanced specialization necessary for those positions, based on discussion by the Board following the President's presentation of recommendations. The President's recommendations for members of top management and Director candidates are themselves based on the deliberations of the Nomination and Compensation Committee.

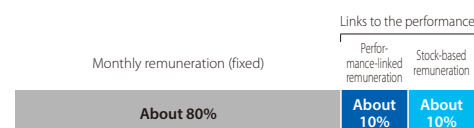
When a member of top management or a Director is found to have acted inappropriately or unreasonably, or there is some other marked impediment to the continued execution of the individual's duties, the Board of Directors may decide, based on discussion within the Board after deliberation by the Nomination and Compensation Committee, to dismiss or otherwise take action to deal with the member of top management or Director in question.

### Officers' Compensation

#### Introduction of performance-linked and stock-based remuneration system

With the aim of improving the link between remuneration and business performance as well as corporate value, and to provide an incentive to continuously improve long-term business performance and increase corporate value, we have introduced a performance-linked and stock-based remuneration system for Directors (excluding Independent Directors and those who are members of the Audit and Supervisory Committee) and executive officers (excluding those who concurrently serve as Directors). Until now, remuneration for the above officers of the Company has been divided into two kinds: a fixed monthly salary and a performance-linked bonus determined after taking into account business performance. With the introduction of the performance-linked and stock-based remuneration system, there are now three parts to officer's compensation, namely: monthly, performance-linked, and stock-based remuneration, with the ratio of performance-linked remuneration at about 20% of the total. All of these matters have been deliberated by the Nomination and Compensation Committee with the stock-based remuneration approved at the 70th Ordinary General Meeting of Shareholders held on June 28, 2022.

The amount of remuneration for Directors who are Audit & Supervisory Committee Members was resolved at the above General Meeting of Share-



holders to be no more than 120 million yen per year (fixed monthly remuneration calculated based on position, etc.). Within the above amount, the amount of remuneration for each Director who is an Audit & Supervisory Committee Member is determined through discussion among Directors who are Audit & Supervisory Committee Members.

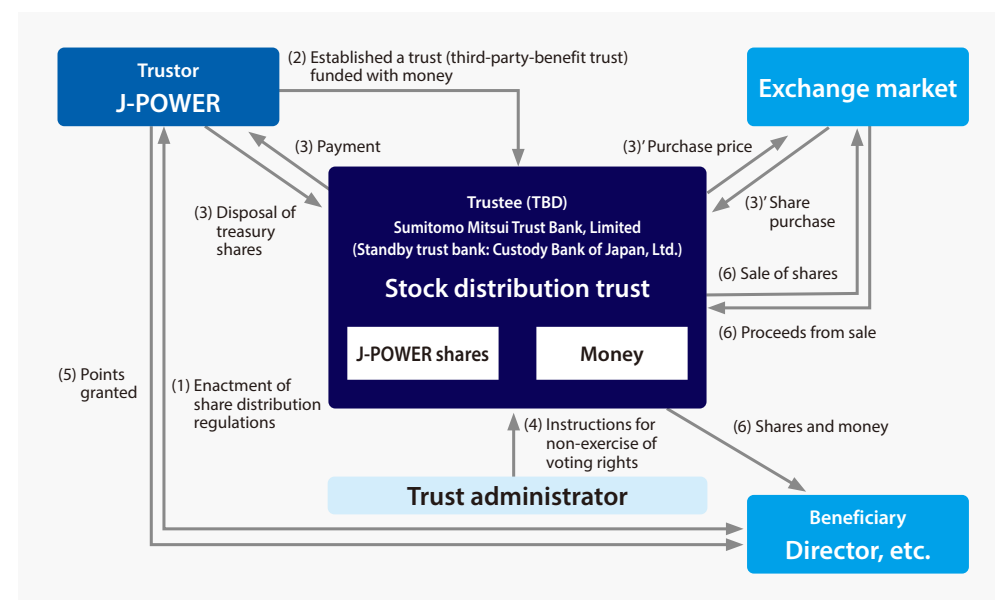
#### Performance-linked remuneration

Performance-linked remuneration has been introduced as an incentive to achieve the management goals set forth in the medium-term management plan. It uses consolidated ordinary income as an index to calculate remuneration.

#### Stock-based remuneration

As an incentive for long-term growth, stock-based remuneration has been introduced with the aim of enhancing the link between remuneration and business performance as well as corporate value, and sharing corporate value with shareholders. Under this system, a trust, established by the Company and to which money is contributed, acquires J-POWER shares. The number of shares equivalent to the number of points granted by the Company to each Director, etc. is then distributed to each Director. In principle, the Company's shares are distributed to Directors, etc. when they retire.

#### Stock-based remuneration



# Message from Independent Directors



Director (Independent Director)

## Tomonori Ito

### Leveraging the different perspective of an independent director

I have had many opportunities to come into contact with investors as a result of my work at a foreign securities company and have seen up close how they view companies. Because it is my opinion that reflecting this perspective in management and the Board of Directors is important, I always make comments and provide advice from an investor perspective.

As electricity demand in Japan has already peaked out, it is important to also look at overseas electricity markets from a long-term growth perspective. The Company's overseas business has been a relative success, and it seems that there are some parts of the overseas business that tend to be viewed as an extension of the domestic business. On account of my experience, I think business overseas is based on different cultural and historical backgrounds and requires different behavior and that we should act in a manner that takes into consideration the unique aspects of the particular market. Thus, I try to express my opinion regarding the overseas strategy from this perspective. When this is taken into consideration and incorporated by the Board of Directors, I feel that I have fulfilled my role as an independent director.

In this way, at Board of Directors meetings, independent directors actively express their opinions, issues are extensively debated, and the results of debates are reflected in the management strategy. I think that we are coming close to realizing the original vision for governance.

### Achieving sustainable growth through understanding of long-term strategy

In recent years, sustainability and ESG have become major issues for companies, and even among investors, there is a growing understanding of the importance of sustainable growth for companies from a long-term perspective. The electric power business is one that takes a long time to recover capital expenditures. Efforts to achieve carbon neutrality by 2050 that the Company touts in J-POWER "BLUE MISSION 2050" will grow the Company and simultaneously contribute to solutions to social issues. However, that transition will take some time. There are situations when this is longer than the timeframe that is considered appropriate by investors, but in such situations, the Company holds serious dialogues with investors. I highly praise the Company's stance toward investors. On the other hand, we independent directors also express opinions to management regarding efforts that can cause change in the short term.

One can see that the Company has an open mind because it actively incorporates the opinions of various stakeholders, including investors, independent directors, and employees. I think that it is important that the management team maintains this stance and that the Company generates profits in the long term and repays shareholders.



Director (Independent Director)  
Audit & Supervisory Committee Member

## Kimiko Oga

### Distinguishing aspects and issues of J-POWER as seen from an outside perspective

My role is to audit and supervise the Company's management during the various reform processes to increase corporate value, including its ESG response, and I think that I express opinions that are different to those of in-house directors and contribute to the sustainable growth of the Company. Controls continue to be a major issue for corporate groups. Making use of my various strengths, including long experience working in the telecommunication business, I pay particularly close attention to promoting DX and diversity.

I feel a strong sense of a mission toward the Company regarding ensuring a stable energy supply. In terms of decarbonization and carbon neutrality, we are promoting J-Power "BLUE MISSION 2050" as a process during the transition period, which includes taking on the challenge of new technologies that use CCUS, hydrogen, and biomass. The most impressive projects have been the Triton Knoll (overseas) and Hibikinada (Japan) massive offshore wind farms, and NEXUS Sakuma, and the one related to Australian brown coal hydrogen. I have a high opinion of the following: Information on important projects is shared with parties including independent directors, efforts are made to deepen awareness of issues, and issues are debated.

Because of expertise that ranges from resource procurement to power generation and experience with the construction of facilities, discussions regarding future concepts, DX, and numerous other issues are moving forward for individual business fields. On the other hand, new challenges are arising and new players are entering the market at a faster and faster pace related to various challenges and entering the energy field, particularly that related to renewable energy, and these efforts, which include power transmission and power clouds, employ IT provided by the massive IT business operator GAFAM, etc. Changes have accelerated as a result of conditions both in Japan and overseas, and if one looks at the electric power business from an information business perspective, I think examining businesses that intersect multiple fields is an urgent issue.

### What we should do to strengthen governance

Partially because the Company is part of the heavy industry, it has not had a large percentage of female employees. However, there has recently been forward movement on diversity and inclusion related efforts, such as including targets for women, non-Japanese hiring, and promoting mid-career hires to senior employees into the corporate governance report. Laws have been amended to promote greater participation of men in childcare and nursing, and these amendments are gradually coming into effect. In addition to workstyle reforms, I expect the Company to contribute to the creation of a society in which both men and women can actively participate in the home and at work.

It is my experience, that if there is a sense of distance between headquarters/management and frontline workers, this tends to lead to numerous accidents and problems. Having managers visit workplaces, increasing communication opportunities, including remote ones, and eliminating that sense of distance leads to stronger governance and contributes to the use of human resources and ensuring safety.

# Emergency Management

## Emergency Management Systems

As well as having a permanent emergency response team at the J-POWER Headquarters, we also put together emergency response headquarters and branches when measures are needed in the event of an emergency or expected emergency.

The Emergency Response Team anticipates emergencies, immediately takes first-response action in the case of any occurrence, and oversees emergency management operations. In the event of an emergency, the team coordinates with the

emergency response branches in each local area to accurately predict and prevent accidents such as disasters and facility incidents, and responds/manages promptly and appropriately should such events occur.

Furthermore, every year, the Emergency Response Headquarters and Branches in the J-POWER Headquarter and local units carry out coordinated comprehensive disaster drills, and conduct safety reporting drills for employees and Group company employees.

## Emergency Management Measures

The J-POWER Group has a responsibility as an electric utility company to ensure a stable supply of electricity, which plays an essential role in people's everyday lives. We need to prevent damage to the equipment that produces and transmits electric power and to restore service quickly should a disruption occur. Accordingly, the J-POWER Group implements the following measures.

- (1) Installation of appropriate facilities and development of disaster recovery systems in preparation for natural disasters, including earthquakes, typhoons, lightning strikes, and tsunamis
- (2) Enhancement of security to prevent malicious and violent conduct
- (3) Enhancement of regular facility inspections to prevent major impediments to electric power supply and appropriate repairs and upgrades in response to aging, the decline of function, and breakdowns
- (4) Preparation of action plans for responding to pandemics and other events that could have a major impact on business operations

## Disaster Prevention and Business Continuity

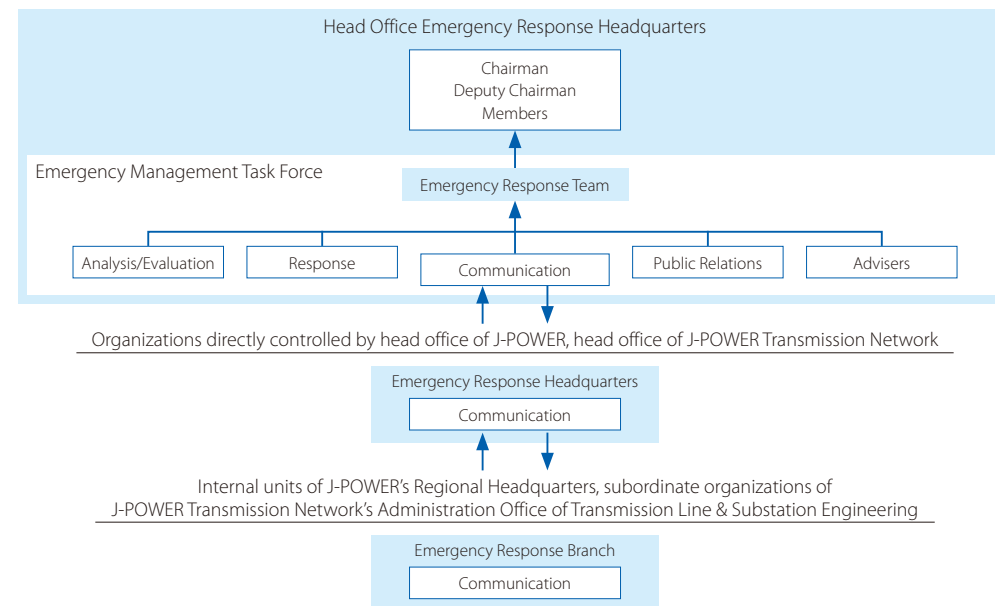
As an electric utility company responsible for vital lifelines, the Company is a designated public institution under the Basic Act on Disaster Control Measures.

Accordingly, the Company has established physical measures assuming a large-scale natural disaster as well as non-physical measures, such as various rules for when disasters occur and a systematic disaster preparedness structure from the

head office to local units. By actively implementing these measures, the Company has reinforced its disaster preparedness structure to ensure the continuation of business even in the event of a natural disaster exceeding assumptions.

Since the COVID-19 pandemic, we have also built a disaster prevention system that does not depend on employees coming to work by carrying out disaster prevention drills remotely.

## Emergency Response Headquarters Communication System



## Cybersecurity

In recent years, cyber-attacks have not only increased but have also become more sophisticated and elaborate. Such attacks include data leaks and shutdowns caused by ransomware<sup>1</sup> which becomes a problem for society. As a critical social infrastructure provider under the Basic Act on Cyber Security, J-POWER is implementing technical measures based on latest knowledge, such as computer virus countermeasures, unauthorized access, and measures against data leaks, based on the National center of Incident readiness and Strategy for Cybersecurity's Action Plan for Information Security Measures for Critical Infrastruc-

tures. We also comply with the Guidelines for Power Control System Security to ensure the security of power control systems and other systems for the stable supply of electric power.

In order to respond to cyber-attacks and recover quickly in the event of any breach, we have established a Basic Policy on Information Security and established the J-POWER CSIRT<sup>2</sup> as a cybersecurity crisis management system, working to prevent cybersecurity incidents and keep damage to a minimum should any incidents occur.

1. A type of computer virus designed to block access to files by encrypting them until a sum of money, or ransom, is paid  
2. Cyber Security Incident Response Team (the letter C originally stood for Computer, but we refer to it as Cyber)

# Compliance & Risk Management

The J-POWER Group, in accordance with its Corporate Philosophy, has established the Corporate Conduct Rules as the core of its compliance activities, outlining basic rules for behavior in line with the spirit of compliance and business ethics to be observed in the course of business operations. In addition, the Group has established its Compliance Action Guidelines as criteria for determining specific actions by individual employees, including members of management, when conducting business activities.

Directors adhere to the Corporate Philosophy, Corporate Conduct Rules, and Compliance Action Guidelines, set an example for honest and fair conduct based on a steadfast spirit of compliance and business ethics, and instill these values in employees.

In addition, the Board of Directors regularly receives reports on the status of business execution in order to keep up to date on risks, including ESG-related risks. The Company incorporates mutual checks and balances in the internal decision-making process, undertakes reviews in various meetings and committees, and always maintains risk management frameworks in accordance with Company regulations. This structure ensures measures are implemented to recognize and avoid risks in the conduct of business activities and minimizes losses when risks actualize.

For details about the J-POWER Group's Corporate Conduct Rules and Compliance Action Guidelines, please refer to the J-POWER's website.

## Corporate Conduct Rules

[https://www.jpowers.co.jp/english/company\\_info/philosophy/](https://www.jpowers.co.jp/english/company_info/philosophy/)

## Compliance Action Guidelines

<https://www.jpowers.co.jp/english/ir/ir24000.html>

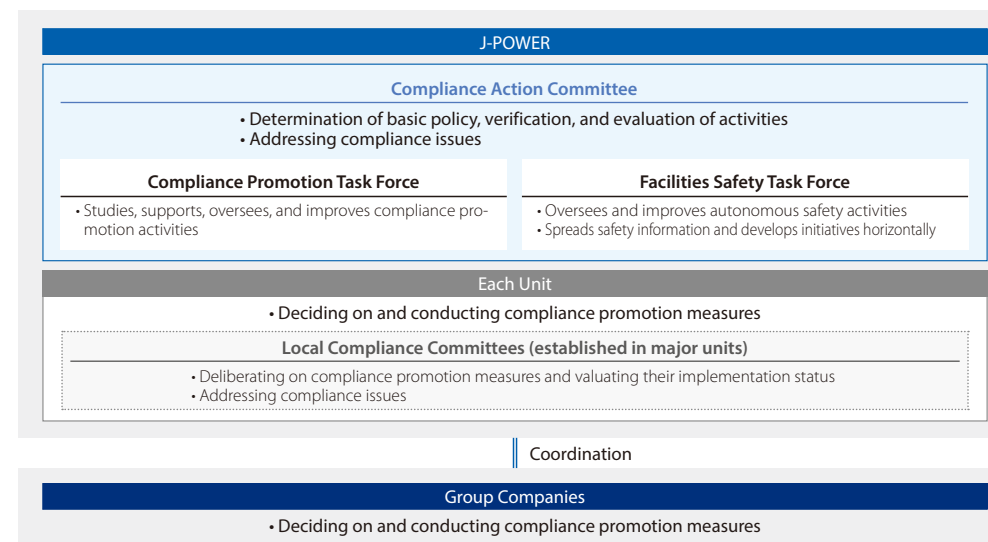
## Compliance Promotion Structure

The Company's compliance is overseen by the Chairman. An officer in charge of compliance implements compliance promotion programs and assists the Chairman and President. The Compliance Action Committee, chaired by the Chairman, has been established to discuss company-wide compliance promotion measures, evaluate their implementation status, and address issues related to compliance violations. With the participation of group companies, the committee implements measures for the entire J-POWER Group. Two task forces have also been established to quickly and accurately promote operations pertaining to compliance promotion, one for company-wide compliance promotion and the other for autonomous safety activities based on the Company's safety regula-

tions. These task forces, which are led by Executive Officers who have relevant expertise, confirm the implementation status of compliance promotion activities.

At major offices, power plants, and Group companies throughout Japan, individual compliance committees have been established to implement compliance activities suited to the characteristics of their respective business units.

## The J-POWER Group's Compliance Promotion System





## Compliance & Risk Management

### Compliance Promotion Activities

The Compliance Action Committee utilizes a PDCA (plan-do-check-act) method for compliance promotion, formulating a plan for each fiscal year, evaluating results at the end of that fiscal year, and formulating the next year's plan based on the results. The compliance promotion plan and results are reported to the Board of Directors.

To raise compliance awareness among employees, the Company issues notifications of changes in laws and regula-

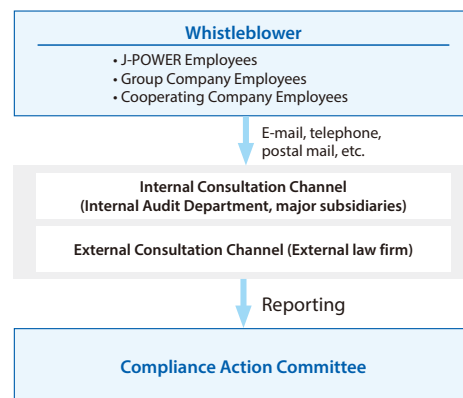
tions, presents compliance-related case studies, and conducts training sessions on laws and regulations related to its business and on compliance issues.

When alleged compliance violations occur, the Compliance Action Committee investigates the facts and causes surrounding the issues and takes appropriate action as necessary, including issuing directives for improvement or measures to prevent their recurrence.

### Compliance Consultation Channels (Whistle-Blowing System)

The J-POWER Group has established Compliance Consultation Channels at the Internal Audit Department, at an external law firm, and at key subsidiaries to serve as consulting hotlines in the event that employees face compliance issues. The Group makes employees aware of these channels. Employees who use these resources are rigorously protected.

#### The J-POWER Group's Compliance Consultation Channels



### Compliance Survey

The J-POWER Group conducts an annual survey of all employees in an effort to understand compliance-related risks. Compliance Consultation Points contact respondents whose responses indicate problems to gather additional information. The survey also seeks out employee opinions

on workplace conditions, communication, and work volume on an ongoing basis. These results are shared with operating units and used to improve workplace environments.

### Barring Relations with Anti-Social Forces

The J-POWER Group's policy is to not maintain relations of any sort with the anti-social forces that threaten the order and safety of civil society. The Company has designated an internal department to act as a point of contact in the event

that demands or other contacts are received from anti-social forces and has established a system that ensures the quick collection of information and appropriate response in cooperation with specialist external agencies.

### Preventing Bribery and Corruption

The J-POWER Group prohibits bribes, illicit payments, and illegal political donations, as well as entertaining or giving gifts to public officials that conflict with the National Public Service Ethics Act or rules prescribed by government agencies. Also, the Company does not offer financial or other rewards to foreign government officials in return for illicit benefits or accommodations. In addition to participating to the United Nation's Global Compact since April 2021 and

stating its intention to prevent corruption, the J-POWER Group endeavors to build a sound and transparent relationship with the legislature and executive and all members of the Group are strictly prohibited from acting in a manner that could lead to misunderstandings regarding political or bureaucratic collusion and other issues, and this includes formulating a policy related to anticorruption and bribery within the International Department.

### Disclosure

The Company has established the Disclosure Committee, chaired by the President, to enhance transparency and accountability in corporate activities. This committee

ensures the fair and transparent disclosure of company information in a timely and proactive manner.

### Compliance with the Internal Control Reporting System

In response to the internal control reporting system for financial reporting required by Japan's Financial Instruments and Exchange Act, the J-POWER Group established, maintains, and evaluates its internal control system, mainly through the Accounting & Finance Department and Internal Audit Department.

In FY2021, continuing from the previous year, the Company's management evaluated the status of the development and operation of internal controls with respect to company-wide internal controls, operational process-relat-

ed internal controls, and information technology-based internal controls in accordance with the implementation standards of Japan's Financial Services Agency. The Company determined that its internal control system for financial reporting is effective. This evaluation result was submitted as an Internal Control Report to the Director-General of the Kanto Finance Bureau in June 2022 following an audit carried out by the Company's Independent Auditor.

Going forward, the J-POWER Group will continue efforts to ensure the reliability of its financial reporting.



# Directors, Audit & Supervisory Board Members, and Executive Officers

(As of June 28, 2022)

See the following webpage for the careers of officers.

[https://www.jpower.co.jp/english/company\\_info/about/officer.html](https://www.jpower.co.jp/english/company_info/about/officer.html)

## Directors (Excluding Directors Serving as Audit & Supervisory Committee Members)



Representative Director Chairman

**Hitoshi Murayama**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
28,300 shares
**Current position**

Jun. 2020 Chairman and Representative Director

**Reason for appointment**

Mr. Hitoshi Murayama is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of thermal power maintenance, thermal power engineering, research & development, renewable energy business, procurement, and digital innovation since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Director and Executive Managing Officer, Executive Vice President and Director, Director and Executive Vice President, and Chairman and Representative Director. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director, and the Company.



Representative Director President

**Toshifumi Watanabe**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
27,100 shares
**Current position**

Apr. 2019 Representative Director President and Chief Executive Officer

**Reason for appointment**

Mr. Toshifumi Watanabe is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in planning, secretarial affairs & public relations, accounting & finance, personnel & employee relations, general affairs, siting & environment, and other departments since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Director, Executive Managing Director, Executive Vice President and Director, President and Director, and Director President and Chief Executive Officer. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Representative Director

**Yoshiki Onoi**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
16,900 shares
**Current position**

Jun. 2022 Representative Director and Executive Vice President (current position)

**Reason for appointment**

Mr. Yoshiki Onoi is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of civil engineering, planning, and international business since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Director and Executive Managing Officer, Executive Vice President and Director, and Director and Executive Vice President, while also serving as Department Director of International Business. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Hiroyasu Sugiyama**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
22,220 shares
**Current position**

Apr. 2020 Director and Executive Vice President

**Reason for appointment**

Mr. Hiroyasu Sugiyama is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of civil engineering, international business, thermal power engineering, renewable energy business and digital innovation since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Director and Executive Managing Officer, and Director and Executive Vice President while also serving as Department Deputy Director of Nuclear Power Business and Department Director of Renewable Energy. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Hitoshi Kanno**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
15,700 shares
**Current position**

Apr. 2022 Director and Executive Vice President

**Reason for appointment**

Mr. Hitoshi Kanno is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of planning, general affairs, siting & environment, sales, and accounting & finance since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Executive Officer, Executive Managing Officer, Director and Executive Managing Officer, and Director and Executive Vice President while also serving as Department Director of Energy Business. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Osamu Hagiwara**

New Appointment

Attendance at Board of Directors meetings  
—/—Number of shares of the Company held  
8,200 shares
**Current position**

Jun. 2022 Director and Executive Vice President

**Reason for appointment**

Mr. Osamu Hagiwara is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of planning and nuclear power since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Executive Officer and Executive Managing Officer while also serving as Department Deputy Director of Nuclear Power Business. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Yoshikazu Shimada**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
15,020 shares
**Current position**

Jun. 2020 Director and Executive Managing Officer

**Reason for appointment**

Mr. Yoshikazu Shimada is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of civil engineering, wind power business, international business, hydroelectric power engineering, and digital innovation since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Executive Officer, Executive Managing Officer, and Director and Executive Managing Officer, while also serving as Department Deputy Director of Renewable Energy. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Hiroshi Sasatsu**
Attendance at Board of Directors meetings  
12/12Number of shares of the Company held  
8,700 shares
**Current position**

Jun. 2020 Director and Executive Managing Officer

**Reason for appointment**

Mr. Hiroshi Sasatsu is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of thermal power maintenance, research & development, and thermal power engineering since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Executive Officer, Executive Managing Officer, and Director and Executive Managing Officer. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.

## Directors, Audit & Supervisory Board Members, and Executive Officers

### Directors (Excluding Directors Serving as Audit & Supervisory Committee Members)



Director

**Takaya Nomura**

New Appointment

 Attendance at Board of Directors meetings  
—/—

 Number of shares of the Company held  
6,500 shares

#### Current position

Jun. 2022 Director and Executive Managing Officer

#### Reason for appointment

Mr. Takaya Nomura is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of international business, hydroelectric power maintenance and procurement since joining the Company, and has highly specialized expertise. In addition, he is highly experienced in business execution through his service as Executive Officer and Executive Managing Officer, while also serving as Department Deputy Director of Renewable Energy. For this career, he possesses distinguished knowledge and capability of addressing various management issues sought in a Director.



Director

**Go Kajitani**

 Outside  
Independent

 Attendance at Board of Directors meetings  
12/12

 Number of shares of the Company held  
0 shares

#### Current position

Jun. 2009 Independent Director of the Company

#### Reason for appointment

Mr. Go Kajitani has abundant experience in the legal profession, distinguished knowledge and capability of addressing various management issues as an attorney at law, and has also played appropriate roles to date as Independent Director of the Company. For this reason, the Company has judged that we can expect him to contribute to strengthen supervisory functions over business execution and offer advice from a wide range of perspectives.



Director

**Tomonori Ito**

 Outside  
Independent

 Attendance at Board of Directors meetings  
11/12

 Number of shares of the Company held  
2,100 shares

#### Current position

Jun. 2014 Independent Director of Aozora Bank, Ltd.  
Jun. 2016 Independent Director of the Company  
Sep. 2021 Professor at Institute for Business and Finance, Waseda Business School (Graduate School of Business and Finance)  
Apr. 2022 Lecturer at Division of Business Administration, Graduate School of Business Administration, Kyoto University of Advanced Science  
Jun. 2022 Independent Director of Mitsui Sumitomo Insurance Company, Ltd.

#### Reason for appointment

Mr. Tomonori Ito has abundant experience in investment banking business both inside and outside Japan, distinguished knowledge and capability of addressing various management issues acquired through researches in financial theory at graduate schools and has also played appropriate roles to date as Independent Director of the Company. For this reason, the Company has judged that we can expect him to contribute to strengthen supervisory functions over business execution and offer advice from a wide range of perspectives.



Director

**John Buchanan**

 Outside  
Independent

 Attendance at Board of Directors meetings  
12/12

 Number of shares of the Company held  
0 shares

#### Current position

Aug. 2006 Research Associate of Centre for Business Research, University of Cambridge  
Jun. 2016 Independent Director of the Company

#### Reason for appointment

Mr. John Buchanan has abundant experience in investment advisory business both inside and outside Japan, distinguished knowledge and capability of addressing various management issues acquired through researches concerning corporate governance at University of Cambridge, and has also played appropriate roles to date as Independent Director of the Company. For this reason, the Company has judged that we can expect him to contribute to strengthen supervisory functions over business execution and offer advice from a wide range of perspectives.

### Directors Serving as Audit & Supervisory Committee Members



Director (Audit &amp; Supervisory Committee Member)

**Naori Fukuda**

New Appointment

 Attendance at  
Board of Directors meetings 12/12

 Attendance at  
Audit & Supervisory Committee meetings 12/12  
Number of shares of the Company held 21,800 shares

#### Current position

Jun. 2022 Director (Audit &amp; Supervisory Committee Member) of the Company

#### Reason for appointment

Mr. Naori Fukuda is well-versed in overall business operations of the Company with abundant business experience he acquired through his assignments in the departments of planning, civil engineering, nuclear power, and international business since joining the Company, and has highly specialized expertise. In addition, he has served as Director and Executive Managing Officer, Department Deputy Director of Nuclear Power Business and Senior Audit & Supervisory Board Member. For this reason, the Company has judged that we can expect him to utilize his distinguished knowledge and observe the Company's management thoroughly, which are sought in a Director serving as Audit & Supervisory Committee Member.



Director (Audit &amp; Supervisory Committee Member)

**Hiroshi Fujioka**

 New Appointment  
Outside  
Independent

 Attendance at  
Board of Directors meetings 12/12

 Attendance at  
Audit & Supervisory Committee meetings 12/12  
Number of shares of the Company held 0 shares

#### Current position

Oct. 2016 Independent Director (Audit and Supervisory Committee Member), The Nishi-Nippon City Bank, Ltd.  
Jun. 2022 Independent Director (Audit & Supervisory Committee Member) of the Company

#### Reason for appointment

Mr. Hiroshi Fujioka has long had abundant experience, highly specialized expertise and distinguished knowledge in administrative practices, including at the Ministry of Finance, and has fulfilled his appropriate role as Independent Audit & Supervisory Board Member of the Company. The Company has judged that we can expect him to observe its management thoroughly.



Director (Audit &amp; Supervisory Committee Member)

**Kiyoshi Nakanishi**

 New Appointment  
Outside  
Independent

 Attendance at  
Board of Directors meetings 12/12

 Attendance at  
Audit & Supervisory Committee meetings 12/12  
Number of shares of the Company held 0 shares

#### Current position

Jun. 2022 Independent Director (Audit &amp; Supervisory Committee Member) of the Company

#### Reason for appointment

Mr. Kiyoshi Nakanishi has abundant experience and highly specialized expertise in the automobile industry, as well as distinguished knowledge as a corporate manager, and he has fulfilled his appropriate role as Independent Audit & Supervisory Board Member of the Company. The Company has judged that we can expect him to observe its management thoroughly.



Director (Audit &amp; Supervisory Committee Member)

**Kimiko Oga**

 New Appointment  
Outside  
Independent

 Attendance at  
Board of Directors meetings\* 10/10

 Attendance at  
Audit & Supervisory Committee meetings\* 10/10  
Number of shares of the Company held 0 shares

#### Current position

Jun. 2019 Independent Director, SKY Perfect JSAT Holdings Inc.  
Mar. 2020 Independent Director (Audit & Supervisory Committee Member), BroadBand Tower, Inc.  
Jun. 2020 Independent Audit & Supervisory Board Member, ALCONIX CORPORATION  
Jun. 2022 Independent Director (Audit & Supervisory Committee Member) of the Company

#### Reason for appointment

Ms. Kimiko Oga has abundant experience and highly specialized expertise in the information and communications industry, as well as distinguished knowledge as a corporate manager, and she has fulfilled her appropriate role as Independent Audit & Supervisory Board Member of the Company. For this reason, the Company has judged that we can expect her to observe its management thoroughly.

\* Attendance at Board of Directors meetings and Audit & Supervisory Committee meetings is that for meetings held after taking up position on June 25, 2021.

## Directors, Audit & Supervisory Board Members, and Executive Officers

### Skill Matrix

When considering appointing directors, the Company has identified skills that directors should possess to flexibly respond to the volatile business environment.

#### ■ Directors (Excluding Directors Serving as Audit & Supervisory Committee Members)

Name	Corporate Management, Business Strategy	Financial Strategy, Accounting	Legal, Risk Management, Governance	Human Resource Strategy	DX, Innovation	Sales & Marketing	Engineering, R&D	Business & Project Development	Production Engineering, Quality Control	International Business, Global	Nomination and Compensation Committee (current position)
Hitoshi Murayama	○		○	○	○		○	○	○		Committee member
Toshifumi Watanabe	○	○	○	○		○					Committee member
Yoshiki Onoi							○	○	○	○	
Hiroyasu Sugiyama					○		○	○	○	○	
Hitoshi Kanno	○	○	○	○		○		○			
Osamu Hagiwara							○	○	○		
Yoshikazu Shimada					○		○	○	○		
Hiroshi Sasatsu							○	○	○		
Takaya Nomura					○		○	○	○	○	
Go Kajitani			○	○							Committee chair
Tomonori Ito	○	○	○							○	
John Buchanan	○	○	○							○	

#### ■ Directors Serving as Audit & Supervisory Committee Members

Name	Corporate Management, Business Strategy	Financial Strategy, Accounting	Legal, Risk Management, Governance	Human Resource Strategy	DX, Innovation	Sales & Marketing	Engineering, R&D	Business & Project Development	Production Engineering, Quality Control	International Business, Global	Nomination and Compensation Committee (current position)
Naori Fukuda				○			○	○	○	○	
Hiroshi Fujioka		○	○								Committee member
Kiyoshi Nakanishi	○						○		○		Committee member
Kimiko Oga	○				○	○					

### System of executive officers and officers with special assignment, such as audits

President and Chief Executive Officer	Toshifumi Watanabe		
Executive Vice President	Yoshiki Onoi	General operations Department Director of International Business (delegation of administrative works)	
	Makoto Honda	ESG oversight Department Deputy Director of International Business (delegation of administrative works) Special assignment related to corporate planning operations	
	Hiroyasu Sugiyama	General operations Department Director of Renewable Energy (delegation of administrative works) Department Deputy Director of Nuclear Power Business (delegation of administrative works) Digital Innovation Dept., Civil & Architectural Engineering Dept., Thermal Energy & Value Creation Dept., Research & Development Dept. Special assignment related to hydrogen and CCS business development	
	Hitoshi Kanno	General operations Corporate oversight Department Director of Energy Business (delegation of administrative works) Department Deputy Director of Nuclear Power Business (delegation of administrative works) Special assignment related to development and planning operations, hydrogen, and CCS business development	
	Osamu Hagiwara	General operations Department Director of Nuclear Power Business (delegation of administrative works)	
Executive Managing Officer	Yoshikazu Shimada Takaya Nomura Takashi Fujita	Hiroshi Sasatsu Ryoji Sekine Shoichi Echigo	Isshuu Kurata Shinichi Demachi Hideaki Kato
Executive Officer	Takashi Jahana Shinsuke Suzuki Yasushi Akahoshi Koji Shirato Tatsuhiko Tanaka	Yasushi Ishida Sumie Nakayama Tetsuaki Mori Kazuo Kato	Kazuo Ito Jun Harada Toshiya Kawai Atsushi Sudo
Specially Appointed Audit & Supervisory Committee Member	Hideo Kimura		

# 6-Year Financial Data

(Millions of yen)

	2017/3	2018/3	2019/3	2020/3	2021/3	2022/3
<b>Consolidated: Operating Revenue/ Expenses Comparison</b>						
Operating Revenue	744,402	856,252	897,366	913,775	909,144	1,084,621
Operating Income	81,726	104,336	78,844	83,638	77,775	86,979
Ordinary Income	67,150	102,476	68,539	78,085	60,903	72,846
Profit Attributable to Owners of Parent	41,429	68,448	46,252	42,277	22,304	69,687

(Million kWh)

<b>Consolidated: Electricity Sales Volume</b>						
<b>Electric Power Business</b>	<b>62,791</b>	<b>67,090</b>	<b>69,356</b>	<b>73,131</b>	<b>74,558</b>	<b>74,792</b>
Hydroelectric	8,508	9,247	9,709	9,196	8,905	9,291
Thermal	53,513	56,782	54,946	52,053	52,140	47,994
Wind	769	824	815	865	1,211	1,190
Other*1	—	235	3,886	11,016	12,301	16,316
<b>Overseas Business*2</b>	<b>14,687</b>	<b>15,871</b>	<b>10,927</b>	<b>15,640</b>	<b>11,097</b>	<b>11,061</b>
Domestic Hydroelectric: Water Supply Rate	92%	105%	106%	101%	96%	99%
Domestic Thermal: Load Factor (non-consolidated)	75%	80%	79%	77%	75%	67%

\*1 Electric power sales volume of electricity procured from wholesale electricity market, etc.

\*2 Electric power sales volume of overseas consolidated subsidiaries (Electric power sales volume of equity method affiliates is not included.)

(Millions of yen)

	2017/3	2018/3	2019/3	2020/3	2021/3	2022/3
<b>Consolidated: Balance Sheet Items</b>						
Total Assets	2,606,285	2,647,054	2,766,179	2,805,390	2,841,960	3,066,176
Total Liabilities	1,842,266	1,810,929	1,920,597	1,948,003	1,988,274	2,102,071
Total Net Assets	764,019	836,124	845,582	857,387	853,685	964,105

**Consolidated: Cash Flow Items**

Net Cash Provided by (Used in) Operating Activities	115,440	160,310	148,423	159,245	167,959	128,380
Net Cash Provided by (Used in) Investing Activities	(137,663)	(109,635)	(170,432)	(161,711)	(143,274)	(178,846)
Free Cash Flow	(22,223)	50,674	(22,008)	(2,466)	24,684	(50,466)

**Consolidated: Financial Indicators**

Return on Assets (ROA)	2.6%	3.9%	2.5%	2.8%	2.2%	2.5%
ROA (after exclusion of the construction in progress of tangible fixed assets)	3.2%	4.8%	3.2%	3.6%	2.8%	3.1%
Return on Equity (ROE)	6.0%	9.1%	5.8%	5.3%	2.8%	8.1%
Net Income per Share (EPS) (Yen)	226.33	373.93	252.68	230.96	121.85	380.70
Net Assets per Share (BPS) (Yen)	3,954.22	4,300.98	4,356.54	4,412.84	4,420.39	5,004.31
Equity Ratio	27.8%	29.7%	28.8%	28.8%	28.5%	29.9%
Debt-Equity Ratio	2.2	2.0	2.1	2.0	2.1	2.0
Number of Common Shares Issued at the End of the Period (excluding treasury stock) (Thousands)	183,049	183,049	183,048	183,048	183,048	183,048

(Millions of yen)

	2017/3	2018/3	2019/3	2020/3	2021/3	2022/3
<b>Non-Consolidated: Operating Revenue/ Expenses</b>						
<b>Operating Revenue</b>	<b>522,460</b>	<b>614,591</b>	<b>646,958</b>	<b>571,291</b>	<b>589,915</b>	<b>790,555</b>
Electric Utility Operating Revenue	510,909	601,475	633,617	563,813	583,812	781,056
Electric Power Cost	—	—	—	—	—	606
Sold Power to Other Suppliers	457,953	545,659	580,652	510,429	566,068	767,205
Transmission and Other	52,955	55,816	52,964	53,383	17,744	13,245
Incidental Business Operating Revenue	11,551	13,115	13,340	7,478	6,102	8,998
<b>Operating Expenses</b>	<b>494,829</b>	<b>571,519</b>	<b>628,279</b>	<b>546,405</b>	<b>512,060</b>	<b>772,155</b>
Electric Utility Operating Expenses	484,288	559,300	615,712	539,708	506,536	763,745
Personnel Expenses	43,657	34,205	32,494	35,861	31,875	20,136
Amortization of the Actuarial Difference	10,726	(103)	(1,463)	2,411	2,883	(7,089)
Fuel Cost	196,843	257,308	289,024	233,234	193,776	298,588
Repair Expenses	68,348	63,458	69,715	66,652	44,133	51,540
Consignment Cost	39,374	41,284	41,951	42,578	47,182	51,961
Depreciation and Amortization Cost	49,696	53,469	51,050	52,702	55,277	55,930
Other	86,369	109,574	131,475	108,678	134,290	285,588
Incidental Business Operating Expenses	10,540	12,219	12,567	6,697	5,524	8,410
<b>Operating Income</b>	<b>27,630</b>	<b>43,071</b>	<b>18,678</b>	<b>24,886</b>	<b>77,854</b>	<b>17,899</b>

(Millions of yen)

	2017/3	2018/3	2019/3	2020/3	2021/3	2022/3
<b>Segment Information</b>						
<b>Sales to External Customers</b>						
Electric Power Business	538,558	631,923	693,790	684,155	731,302	876,431
Electric Power-Related Business	34,004	36,934	35,518	31,988	24,784	44,659
Overseas Business	149,888	163,084	141,024	179,094	138,087	145,106
Other Businesses	21,950	24,309	27,032	18,537	14,970	18,424
Consolidated	744,402	856,252	897,366	913,775	909,144	1,084,621
<b>Ordinary Income</b>						
Electric Power Business	22,212	39,561	14,995	27,466	19,082	26,685
Electric Power-Related Business	14,244	23,098	26,468	18,507	12,292	25,834
Overseas Business	31,229	40,528	29,284	33,965	30,883	22,017
Other Business	1,376	1,258	1,388	569	1,049	1,234
Adjustments	(1,912)	(1,970)	(3,597)	(2,423)	(2,405)	(2,925)
Consolidated	67,150	102,476	68,539	78,085	60,903	72,846
<b>Depreciation and Amortization</b>						
Electric Power Business	54,650	60,606	58,413	59,111	73,996	75,081
Electric Power-Related Business	5,975	5,786	5,579	6,754	8,093	8,181
Overseas Business	16,448	17,443	17,527	18,723	16,181	15,663
Other Business	314	282	303	333	359	370
Adjustments	(1,728)	(1,819)	(1,845)	(1,913)	(2,185)	(2,297)
Consolidated	75,660	82,298	79,979	83,009	96,445	96,997
<b>Increase in the Tangible and Intangible Non-current Assets</b>						
Electric Power Business	107,841	100,129	99,924	116,971	106,744	89,958
Electric Power-Related Business	2,153	3,639	4,850	16,581	5,737	5,450
Overseas Business	1,358	5,018	4,711	27,232	60,279	39,301
Other Business	553	346	700	420	387	361
Adjustments	(6,070)	(10,417)	(2,406)	1,490	(1,638)	(2,955)
Consolidated	105,837	98,716	107,780	162,696	171,509	132,116



# Consolidated Financial Statements

## Consolidated Balance Sheet

(Millions of yen)

	2021/3	2022/3
<b>Assets</b>		
<b>Non-current Assets</b>	<b>2,475,202</b>	<b>2,594,819</b>
<b>Electric Utility Plant and Equipment</b>	<b>1,107,399</b>	<b>1,076,948</b>
Hydroelectric Power Production Facilities	356,513	360,084
Thermal Power Production Facilities	422,645	401,071
Internal Combustion Engine Power Production Facilities	1,460	1,198
Renewable Power Production Facilities	84,040	76,556
Transmission Facilities	145,989	144,458
Transformation Facilities	31,743	30,236
Communication Facilities	7,054	6,600
General Facilities	57,952	56,742
<b>Overseas Business Facilities</b>	<b>286,958</b>	<b>271,356</b>
<b>Other Non-current Assets</b>	<b>91,106</b>	<b>92,297</b>
<b>Construction in Progress</b>	<b>588,222</b>	<b>676,596</b>
Construction and Retirement in Progress	588,222	676,596
<b>Nuclear Fuel</b>	<b>75,359</b>	<b>75,806</b>
Nuclear Fuel in Processing	75,359	75,806
<b>Investments and Other Assets</b>	<b>326,156</b>	<b>401,813</b>
Long-Term Investments	252,425	323,770
Net Defined Benefit Asset	87	241
Deferred Tax Assets	54,221	64,277
Other	19,521	13,642
Allowance for Doubtful Accounts	(99)	(118)
<b>Current Assets</b>	<b>366,757</b>	<b>471,357</b>
Cash and Deposits	189,842	223,072
Notes and Accounts Receivable –Trade	66,140	—
Notes and Accounts Receivable –Trade and Contract Assets	—	80,439
Inventories	46,085	62,173
Other	65,042	105,674
Allowance for Doubtful Accounts	(352)	(3)
<b>Total Assets</b>	<b>2,841,960</b>	<b>3,066,176</b>

(Millions of yen)

	2021/3	2022/3
<b>Liabilities</b>		
<b>Non-current Liabilities</b>	<b>1,713,159</b>	<b>1,686,575</b>
Bonds Payable	654,994	706,484
Long-Term Loans Payable	892,350	839,645
Lease Obligations	2,484	2,239
Other Provision	26	20
Net Defined Benefit Liability	45,647	37,976
Asset Retirement Obligations	35,378	35,240
Deferred Tax Liabilities	15,403	16,808
Other	66,874	48,158
<b>Current Liabilities</b>	<b>275,115</b>	<b>415,496</b>
Current Portion of Non-current Liabilities	87,332	145,467
Short-Term Loans Payable	8,947	8,149
Commercial Paper	20,005	90,016
Notes and Accounts Payable –Trade	23,625	44,651
Accrued Taxes	43,865	18,276
Other Provision	661	691
Asset Retirement Obligations	493	426
Other	90,185	107,817
<b>Total Liabilities</b>	<b>1,988,274</b>	<b>2,102,071</b>
<b>Net Assets</b>		
<b>Shareholders' Equity</b>	<b>814,772</b>	<b>870,826</b>
Capital Stock	180,502	180,502
Capital Surplus	119,877	119,881
Retained Earnings	514,401	570,452
Treasury Shares	(8)	(9)
<b>Accumulated Other Comprehensive Income</b>	<b>(5,627)</b>	<b>45,203</b>
Valuation Difference on Available-for-Sale Securities	11,156	14,014
Deferred Gains or Losses on Hedges	(33,968)	(9,359)
Foreign Currency Translation Adjustment	9,096	32,136
Remeasurements of Defined Benefit Plans	8,088	8,411
<b>Non-Controlling Interests</b>	<b>44,540</b>	<b>48,075</b>
<b>Total Net Assets</b>	<b>853,685</b>	<b>964,105</b>
<b>Total Liabilities and Net Assets</b>	<b>2,841,960</b>	<b>3,066,176</b>

## Consolidated Financial Statements

### Consolidated Statement of Income

(Millions of yen)

	2021/3	2022/3
<b>Operating Revenue</b>	<b>909,144</b>	<b>1,084,621</b>
Electric Utility Operating Revenue	731,302	876,431
Overseas Business Operating Revenue	138,087	145,106
Other Business Operating Revenue	39,754	63,083
<b>Operating Expenses</b>	<b>831,369</b>	<b>997,642</b>
Electric Utility Operating Expenses	675,837	824,491
Overseas Business Operating Expenses	109,167	118,290
Other Business Operating Expenses	46,364	54,860
<b>Operating Income</b>	<b>77,775</b>	<b>86,979</b>
<b>Non-Operating Income</b>	<b>11,214</b>	<b>22,508</b>
Dividends Income	2,839	1,862
Interest Income	515	1,811
Share of Profit of Entities Accounted for Using Equity Method	2,759	14,228
Insurance Claim Income	2,202	2,366
Other	2,897	2,240
<b>Non-Operating Expenses</b>	<b>28,086</b>	<b>36,641</b>
Interest Expenses	23,746	22,442
Foreign Exchange Losses	—	7,558
Other	4,340	6,639
<b>Total Ordinary Revenue</b>	<b>920,359</b>	<b>1,107,130</b>
<b>Total Ordinary Expenses</b>	<b>859,456</b>	<b>1,034,283</b>
<b>Ordinary Income</b>	<b>60,903</b>	<b>72,846</b>
<b>Extraordinary Income</b>	<b>9,478</b>	<b>—</b>
Gain on Sale of Shares of Subsidiaries and Associates	9,478	—
<b>Extraordinary Losses</b>	<b>5,706</b>	<b>—</b>
Impairment Losses	5,706	—
<b>Profit before Income Taxes</b>	<b>64,674</b>	<b>72,846</b>
<b>Income Taxes—Current</b>	<b>35,451</b>	<b>14,581</b>
<b>Income Taxes—Deferred</b>	<b>(1,960)</b>	<b>(16,519)</b>
<b>Total Income Taxes</b>	<b>33,491</b>	<b>(1,938)</b>
<b>Profit</b>	<b>31,183</b>	<b>74,784</b>
<b>Profit Attributable to Non-Controlling Interests</b>	<b>8,879</b>	<b>5,097</b>
<b>Profit Attributable to Owners of Parent</b>	<b>22,304</b>	<b>69,687</b>

Note: Under each item, there are cases of fiscal years in which the monetary importance has been minor being included and represented under another item.

### Consolidated Statement of Cash Flows

(Millions of yen)

	2021/3	2022/3
<b>Cash Flows from Operating Activities</b>		
Profit before Income Taxes	64,674	72,846
Depreciation and Amortization	96,445	96,997
Loss on Retirement of Non-current Assets	4,945	4,828
Increase (Decrease) in Net Defined Benefit Liability	2,036	(7,372)
Interest and Dividend Income	(3,354)	(3,673)
Interest Expenses	23,746	22,442
Decrease (Increase) in Notes and Accounts Receivable –Trade	14,183	(10,283)
Decrease (Increase) in Inventories	4,411	(15,958)
Increase (Decrease) in Notes and Accounts Payable –Trade	(24)	12,182
Share of (Profit) Loss of Entities Accounted for Using Equity Method	(2,759)	(14,228)
Loss (Gain) on Sale of Shares of Subsidiaries and Associates	(9,478)	—
Other, Net	(9,098)	21,913
Subtotal	185,729	179,694
Interest and Dividend Income Received	18,506	15,576
Interest Expenses Paid	(23,163)	(21,537)
Income Taxes Paid	(13,113)	(45,353)
<b>Net Cash Provided by (Used in) Operating Activities</b>	<b>167,959</b>	<b>128,380</b>
<b>Cash Flows from Investing Activities</b>		
Purchase of Non-current Assets	(159,296)	(135,282)
Payments of Investments and Loans Receivable	(2,567)	(49,740)
Collections of Investments and Receivable	21,378	4,744
Other, Net	(2,788)	1,432
<b>Net Cash Provided by (Used in) Investing Activities</b>	<b>(143,274)</b>	<b>(178,846)</b>
<b>Cash Flows from Financing Activities</b>		
Proceeds from Issuance of Bonds	69,782	71,242
Redemption of Bonds	(80,000)	(20,000)
Proceeds from Long-Term Loans Payable	106,706	49,155
Repayment of Long-Term Loans Payable	(79,265)	(65,311)
Increase in Short-Term Loans Payable	54,316	37,154
Decrease in Short-Term Loans Payable	(60,322)	(37,924)
Proceeds from Issuance of Commercial Papers	20,007	140,033
Redemption of Commercial Papers	—	(70,000)
Cash Dividends Paid	(13,728)	(13,725)
Dividends Paid to Non-controlling Interests	(9,527)	(5,918)
Other, Net	(936)	(636)
<b>Net Cash Provided by (Used in) Financing Activities</b>	<b>7,031</b>	<b>84,070</b>
<b>Effect of Exchange Rate Change on Cash and Cash Equivalents</b>	<b>(3,667)</b>	<b>3,686</b>
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	<b>28,048</b>	<b>37,290</b>
<b>Cash and Cash Equivalents at Beginning of the Period</b>	<b>157,212</b>	<b>185,260</b>
<b>Cash and Cash Equivalents at the End of the Period</b>	<b>185,260</b>	<b>222,551</b>

Note: Under each item, there are cases of fiscal years in which the monetary importance has been minor being included and represented under another item.

# ESG Data

## SASB INDEX

Relevant performance is organized in accordance with the Electric Utilities & Power Generators industry standards set by the US-based Sustainability Accounting Standards Board (SASB). SASB Standards were created primarily with companies and markets in North America in mind and incorporate some items that do not apply to our business. However, we have attempted to disclose as much information as possible.

Topic	Accounting Metric	Code	Unit	Result
Greenhouse Gas Emissions & Energy Resource Planning <sup>1</sup>	(1) Gross global Scope 1 emissions	IF-EU-110a.1	tCO <sub>2</sub>	47,950,000
	(2) Percentage of Scope 1 emissions under emissions-limiting regulations		%	Not applicable
	(3) Percentage of Scope 1 under emissions-reporting regulations		%	100%
	Greenhouse gas (GHG) emissions associated with power deliveries	IF-EU-110a.2	tCO <sub>2</sub>	46,790,000
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions	IF-EU-110a.3		Aim for net-zero emissions (carbon neutrality) by 2050. Concerning coal-fired power in Japan as we head toward 2030, we will phase out power plants that have become obsolete, starting with the oldest, and upcycle remaining power plants to highly efficient power systems that use hydrogen by adding gasification facilities, thereby reducing emissions. We will also introduce mixed combustion of biomass and ammonia, further reducing emissions.
	Emissions reduction targets			2050 Net-zero emissions FY2030 Reduce CO <sub>2</sub> emissions from the J-POWER Group's domestic power generation business: 40%* (-19 million tCO <sub>2</sub> ) FY2025 Reduce CO <sub>2</sub> emissions from the J-POWER Group's domestic power generation business: -7 million tCO <sub>2</sub> * Compared to the 3-year average of actual emissions for FY2017-FY2019
	Analysis of performance against the above targets			In order to cut FY2030 CO <sub>2</sub> emissions from the J-POWER Group's domestic power generation business 40% (-19 million tCO <sub>2</sub> ), we added 7 million t reduction by FY2025 as an interim target and are moving forward with plans to implement the above reductions.
	(1) Number of customers served in markets subject to renewable portfolio standards (RPS)	IF-EU-110a.4	Cases	Not applicable * The RPS law which established RPS regulations in Japan was abolished in 2012 and has shifted to a feed-in tariff system.
	(2) Percentage fulfillment of RPS target by market		%	
Air Quality <sup>2</sup>	(1) NO <sub>x</sub>	IF-EU-120a.1	t, %	24,900t, [100%] The percentage value indicates emission rate in densely populated areas.
	(2) SO <sub>x</sub>		t, %	10,700t, [100%] The percentage value indicates emission rate in densely populated areas.
	(3) Particulate matter (PM <sub>10</sub> )		t, %	Undisclosed, as we have not adopted measurement methods recommended by the SASB Standards.
	(4) Lead (Pb)		t, %	Undisclosed, as we have not adopted measurement methods recommended by the SASB Standards.
	(5) Mercury (Hg)		t, %	Undisclosed, as we have not adopted measurement methods recommended by the SASB Standards.
Water Management <sup>2</sup>	(1) Total water withdrawn	IF-EU-140a.1	thousand m <sup>3</sup> , %	60,367,000 thousand m <sup>3</sup> , [0%] The percentage value indicates the proportion of areas with high/extremely high water stress.
	(2) Total water consumed		thousand m <sup>3</sup> , %	18,200 thousand m <sup>3</sup> , [51%] The percentage value indicates the proportion of areas with high/extremely high water stress.
	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	IF-EU-140a.2	Cases	0
	Description of water management risks and discussion of strategies and practices to mitigate those risks	IF-EU-140a.3		The company manages the risk of the use of water resources properly, since the use is essential to our power generation business. Hydroelectric power plants conform with the quantity of water intake permitted under the laws and regulations and the amount of water necessary to maintain the river environment. Thermal power plants comply with the quality standards through adequate water discharges treatment as well as reduce water intake and consumption by recycling the water for hydroelectric power generation, etc. In addition, we use the WRI Aqueduct (3.0) to locate water risks at hydroelectric and thermal power plants of our consolidated subsidiaries where large amounts of water resources are used. As a result, while no power plants operate in places where high water stress is found in Japan, there are many thermal power plants located in areas with high water stress overseas. In such overseas areas, we are reducing water intake/consumption and operational risk by reusing water discharges after treatment and constructing reservoirs by taking environments of each area into account. For details of water resource risk management, please refer to the "J-POWER Group Integrated Report 2022 Supplementary Material: Environment."
Coal Ash Management <sup>3</sup>	Amount of coal combustion residuals (CCR) generated and percentage recycled	IF-EU-150a.1	t, %	1,677,000t [98.3%]
	Number of coal combustion residual (CCR) impoundments	IF-EU-150a.2	Cases	3

1. The figure is a total of those of J-POWER and its consolidated subsidiaries and equity-method affiliates operating at home and abroad in Electric Power Business, Electric Power-Related Business, etc.

2. The figure is a total of those of J-POWER and its consolidated subsidiaries operating at home and abroad in Electric Power Business, Electric Power-Related Business, etc.

3. The figure is a total of those of J-POWER and its domestic consolidated subsidiaries in Electric Power Business, Electric Power-Related Business, etc.

## ESG Data

## SASB INDEX

Topic	Accounting Metric	Code	Unit	Result
Energy Affordability	(1) Retail electric rate for residential customers	IF-EU-240a.1		Undisclosed
	(2) Retail electric rate for commercial customers			* Not disclosed for competitive reasons associated with electric power deregulation.
	(3) Average retail electric rate for industrial customers			
	Typical monthly electric bill for residential customers for (1) 500 kWh of electricity delivered per month	IF-EU-240a.2		
	Typical monthly electric bill for residential customers for (1) 1,000 kWh of electricity delivered per month			
	(1) Number of residential customer electric disconnections for non-payment	IF-EU-240a.3		
	(2) Percentage reconnected within 30 days			
Workforce Health & Safety	(1) Total recordable incident rate ((statistic count × 200,000) / hours worked)	IF-EU-320a.1	—	0.25 (Employees: 0.00; Outsourcing & other contractors: 0.33) * Calculations are for J-POWER, five major J-POWER Group companies,* and cooperating companies.
	(2) Fatality rate (number of cases)		Cases	0
	(3) Near miss frequency rate ((statistic count × 200,000) / hours worked)		—	Undisclosed * Undisclosed as it is not aggregated on a company-wide basis.
End-Use Efficiency & Demand	(1) Decoupled percentage	IF-EU-420a.1	%	Not applicable
	(2) Lost revenue adjustment mechanism (LRAM) percentage		%	* Marked "Not applicable" as no customers in Japan employ decoupling or LRAM.
	Percentage of electric load (MWh) served by smart grid technology	IF-EU-420a.2	%	Undisclosed * Not disclosed for competitive reasons associated with electric power deregulation.
	Customer electricity savings from efficiency measures, by market	IF-EU-420a.3	MWh	Not applicable
Nuclear Safety & Emergency Management	Total number of nuclear power units	IF-EU-540a.1	Number of units	1 (Ohma Nuclear Power Plant, under construction) * The starting operation date is undetermined since the Ohma Nuclear Power Plant is currently undergoing a review by the Nuclear Regulation Authority of its compliance with the New Safety Standards for Nuclear Power Stations.
	Description of efforts to manage nuclear safety and emergency preparedness	IF-EU-540a.2		We will work to improve safety by aptly implementing safety activities based on the quality management system for nuclear safety led by our president, and by steadily undertaking continuous improvement through the Corrective Action Program (CAP). Furthermore, with "safety first" as our organizational culture and with awareness among all of us of the roles and the importance of our work duties, we engage in activities to foster and maintain a culture of nuclear safety by which we continuously improve ourselves.
Grid Resiliency	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	IF-EU-550a.1	Cases	0
	(1) System Average Interruption Duration Index (SAIDI)	IF-EU-550a.2		Not applicable
	(2) System Average Interruption Frequency Index (SAIFI)			* J-POWER Transmission Network Co., Ltd., a consolidated subsidiary of the Company, owns electric power transmission and substation facilities and engages in electricity transmission as stipulated in the Electricity Business Act, but does not own distribution facilities and does not engage in the business of supplying electricity to end users.
	(3) Customer Average Interruption Duration Index (CAIDI)			This is currently placed under the roles of individual transmission system operators (TSOs) that engage in grid operations in specific areas.

\* Major consolidated subsidiaries to which J-POWER outsources electric power facilities maintenance. J-POWER Business Service Corporation, J-POWER HYTEC Co., Ltd., J-POWER Generation Service Co., Ltd., J-POWER Telecommunication Service Co., Ltd., J-POWER Design Co., Ltd.

## Activity Metrics

Business metrics	Unit	Result
Number of: (1) residential, (2) commercial, and (3) industrial customers served	Cases	Undisclosed * Not disclosed for competitive reasons associated with electric power deregulation.
Total electricity delivered to: (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers	MWh	Undisclosed * Not disclosed for competitive reasons associated with electric power deregulation.
Length of transmission and distribution lines	km	2,410.1km
Total electricity generated, percentage by major energy source, percentage in regulated markets	MWh,%	(1) 69,537,071 MWh (2) Hydroelectric: 13% Thermal: 85% Wind: 2% (3) Not applicable * Marked "Not applicable" as there are no "regulated markets" in Japan.
Total wholesale electricity purchased	MWh	Undisclosed * Not disclosed for competitive reasons associated with electric power deregulation.

## ESG Data

## Other ESG data

## Environment

Accounting Metric			Unit	Result		
				FY2019	FY2020	FY2021
Greenhouse gas emissions <sup>1, 2</sup>	Scope1		million tCO <sub>2</sub>	53.97	53.58	47.95
	Scope2		million tCO <sub>2</sub>	0.11	0.13	0.14
	Scope3		million tCO <sub>2</sub>	22.22	15.27	13.60
	Total		million tCO <sub>2</sub>	76.31	68.98	61.68
Fuel consumption <sup>3</sup>	Coal (dry coal 28 MJ/kg equivalent)		million t	16.98	17.05	15.65
	Usage intensity (coal-fired thermal power)		tons/GWh	334	332	344
	Natural gas		million Nm <sup>3</sup>	96	56	1,274
	Heavy oil		thousand kl	30	40	40
	Diesel		thousand kl	30	30	90
	Biomass		thousand t	30	40	30
SOx, NOx, soot and dust <sup>3</sup>	NOx	Emissions	thousand t	27.5	24.2	24.0
		Emission intensity	g/kWh	0.50	0.44	0.42
	SOx	Emissions	thousand t	11.9	10.8	11.0
		Emission intensity	g/kWh	0.22	0.20	0.19
	Soot and dust	Emissions	thousand t	0.6	0.6	0.6
		Emission intensity	g/kWh	0.01	0.01	0.01
Industrial waste <sup>4</sup>	Volume generated		million t	2.00	2.05	1.98
	Volume recycled		million t	1.98	2.03	1.94
	Recycle rate		%	99	99	98
	Industrial waste treatment expenses (non-consolidated basis)		billion yen	23.3	24.1	23.7

1. The figure is a total of those of J-POWER and its consolidated subsidiaries and equity-method affiliates operating at home and abroad in Electric Power Business, Electric Power-Related Business, etc. (Consolidated subsidiaries and equity-method affiliates are considered in terms of investment ratio)  
Greenhouse gas emissions (marked with ★) are guaranteed by a third party review organization. Warranty Data Authorized Report: J-POWER Group Integrated Report 2022 Supplementary Material: Environment  
<https://www.jpowers.co.jp/english/ir/ir51000.html>

2. Since FY2021, the scope of data was expanded from consolidated subsidiaries to include equity-method companies and was revised to take into account the equity share. Accompanying the change, data presented for FY2019 and FY2020 was recalculated using the same criteria. Therefore, the figures are different than those appearing in the Integrated Report 2021.

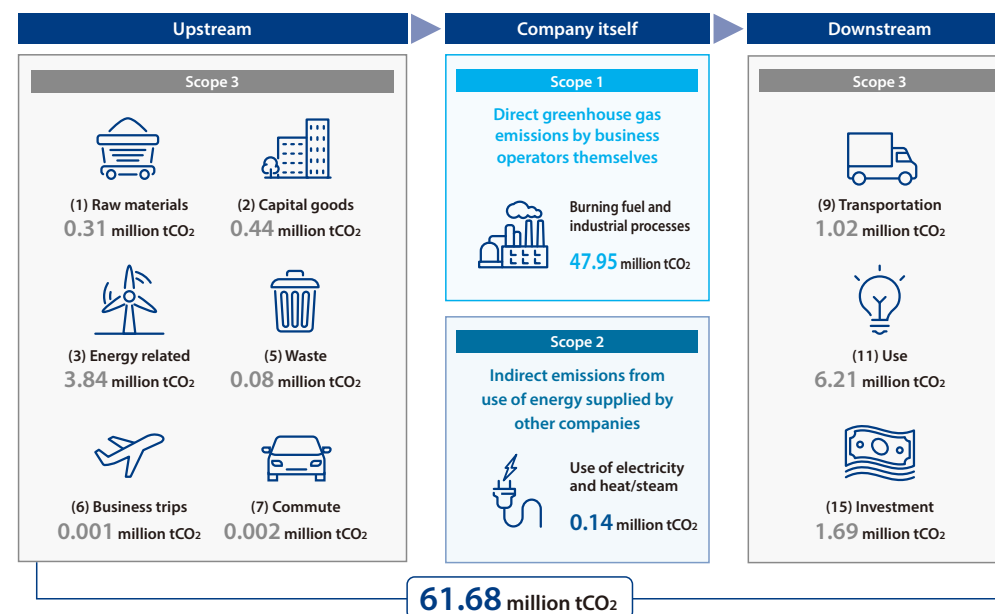
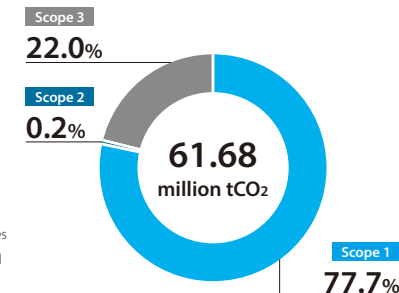
3. Data up to FY2020 results were for J-POWER and domestic consolidated subsidiaries in Electric Power Business and Electric Power-Related Business, etc. From FY2021 results, overseas consolidated subsidiaries are also included. (Consolidated subsidiaries are considered in terms of investment ratio)

4. The figure is a total of those of J-POWER and domestic consolidated subsidiaries in Electric Power Business, Electric Power-Related Business, etc. (Consolidated subsidiaries are considered in terms of investment ratio)

Greenhouse gas emissions<sup>1</sup>

FY2021 (actual data)

- Scope 1** : Direct greenhouse gas emissions by business operators themselves (burning fuel and industrial processes)
- Scope 2** : Indirect emissions accompanying use of electricity and heat/steam from other companies
- Scope 3** : Indirect emissions other than scope 1 and scope 2 (emissions of other companies related to activities of business operators)



## Calculation methods in each Scope 3 category

- Calculated by multiplying each product or service purchased by respective emission factor
- Calculated by multiplying the capital investment by the emissions intensity
- Sum of the following two values
  - Emissions from production and transportation of fuel used by the company
  - Calculated by multiplying the amount of electricity procured from sources other than the company by the emission intensity
- Calculated by multiplying the amount of emissions by waste type by the emissions intensity of each treatment method
- Calculated by multiplying the number of employees by the emissions intensity
- Calculated by multiplying the number of employees and number of business days by type of work and by rank of employee, respectively, by emission intensity
- Calculated by multiplying the ton-kilometers of sold coal transported by emission intensity
- Calculated by multiplying the volume of coal sold by the emissions intensity
- CO<sub>2</sub> emissions from power plants in which J-POWER's equity portion is 20%



## ESG Data

## Other ESG data

## Society

Accounting Metric			Unit	Result		
				FY2019	FY2020	FY2021
Human resources <sup>1</sup>	Number of employees (consolidated) <sup>2</sup>	Male	Persons	6,353	6,289	6,229
		Female	Persons	909	867	917
		Total	Persons	7,262	7,156	7,146
	Managers	Male	Persons	980	953	985
		Female	Persons	14	13	13
		Percentage of women	%	1.4	1.3	1.3
	Number of new graduates hired <sup>3</sup>	Male	Persons	92	89	81
		Female	Persons	11	15	16
		Total	Persons	103	104	97
	Percentage of people with disabilities employed <sup>4</sup>		%	2.39	2.45	2.42
	Average length of continuous service, years	Male	Years	20.3	20.4	20.4
		Female	Years	8.6	10.1	9.8
		Total	Years	19.7	19.8	19.7
	Average annual salary <sup>5</sup>	Total	Yen	7,866,402	7,967,061	7,939,362
	Ratio of women's to men's wages <sup>6,7</sup>	Under 30	—	—	—	0.963
		30s	—	—	—	0.957
		40 and over	—	—	—	1.036
	Turnover rate for the three years after joining		%	1.4	2.5	4.4
	Total actual working hours per person		Hours	1,979	1,943	1,976
	Overtime hours worked per person		Hours/Month	21.3	20.2	21.8
	Days of paid vacation taken per person		Days	16.7	14.9	15.4
	Average age		Age	41.1	42.1	42.0
Human resource development <sup>1</sup>	Average training time per employee		Hours	40.2	24.7	34.2
	Average training expenses per employee		Thousand yen/Person	291	204	232

1. Unless specified otherwise, human resource-related and human resource development-related data are for J-POWER only.

2. J-POWER Group employees (excluding temporary employees)

3. Number of new employees joining the company in April 2020, 2021, or 2022 or after

4. As of June 1, 2020, 2021, and 2022

5. Average annual salary includes non-standard wages and bonuses. Management and other employees are not included.

6. Comparison of base salaries of global employees. Ratio of female to male wages.

7. (Reference) Ratio of female to male wages in the average annual salary to be disclosed in the annual securities report: 0.690 for all employees, 0.690 for regular employees, and 0.680 for non-regular employees.

Accounting Metric			Unit	Result		
				FY2019	FY2020	FY2021
Occupational Health and Safety	Number of occupational accidents	J-POWER, only	Cases	0	0	0
		Major five companies <sup>8</sup> + cooperating companies	Cases	3	1	0
		Total	Cases	3	1	0
	Serious injuries	J-POWER, only	Cases	2	0	0
		Major five companies + cooperating companies	Cases	12	7	11
		Total	Cases	14	7	11
	Minor injuries	J-POWER, only	Cases	2	1	0
		Major five companies + cooperating companies	Cases	10	5	11
		Total	Cases	12	6	11
	Frequency <sup>9</sup>	J-POWER + Major five companies + cooperating companies	—	1.55	0.85	1.27
		Industry-wide	—	1.8	1.95	2.09
	Severity <sup>10</sup>	J-POWER + Major five companies + cooperating companies	—	1.41	0.49	0.06
		Industry-wide	—	0.09	0.09	0.09

8. Major consolidated subsidiaries to which J-POWER outsources facilities maintenance. J-POWER Business Service Corporation, J-POWER HYTEC Co., Ltd., J-POWER Generation Service Co., Ltd., J-POWER Telecommunication Service Co., Ltd., J-POWER Design Co., Ltd.

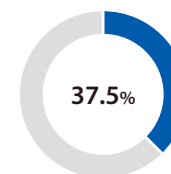
9. Frequency = number of fatalities and injuries due to industrial accidents / total number of actual hours worked x 1,000,000

10. Severity = total number of days of labor loss/total number of actual hours worked x 1,000

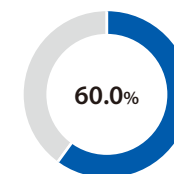
## Governance

(as of June 28, 2022)

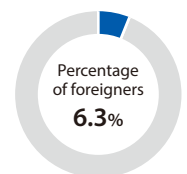
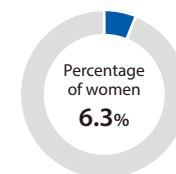
Number of Independent Directors on the Board of Directors (percentage)



Number of Independent Officers on the Nomination and Compensation Committee (percentage)



Composition of Directors



# Major Group Companies (As of March 31, 2022)

## Consolidated Subsidiaries

Company Name	Main Businesses	Equity Stake (%)
<b>Electric Power Business</b>		
J-POWER Transmission Network Co., Ltd.	Transmission business	100.0
Mihama Seaside Power Co., Ltd.	Thermal power business	100.0
J-Wind Kaminokuni, Ltd.	Wind power business	100.0
J-Wind Co., Ltd.	Wind power business	100.0
J-Wind KUZUMAKI Co., Ltd.	Wind power business	100.0
J-Wind SETANA Co., Ltd.	Wind power business	100.0
Nagasaki-Shikamachi Wind Power Co., Ltd.	Wind power business	70.0
ITOIGAWA POWER Inc.	Thermal power business	64.0
Ishikari Green Energy Co., Ltd.	Wind power business	70.0 (70.0)
Esashi Green Energy Co., Ltd.	Wind power business	70.0 (70.0)
<b>Electric Power-Related Business</b>		
J-POWER AUSTRALIA PTY. LTD.	Investment in coal mines in Australia	100.0
J-POWER Generation Service Co., Ltd.	Operation of thermal power plants; sale of fly ash; ocean transportation of coal for thermal power plants; research, planning, and analysis of environmental conservation	100.0
J-POWER HYTEC Co., Ltd.	Construction, technical development, design, consulting, maintenance, and research for hydroelectric power plants, substations, and transmission lines; surveying of and compensation for construction sites; civil engineering, construction management, and construction services	100.0
J-POWER Business Service Corporation	Operation of welfare facilities; facility maintenance; business process outsourcing; development of computer software; import and sale of fuel for power generation	100.0
J-POWER EnTech Co., Inc.	Engineering services for atmospheric and water pollutant removal equipment	100.0
J-POWER Telecommunication Service Co., Ltd.	Construction and maintenance of electronic and communications facilities	100.0
J-POWER Design Co., Ltd.	Design, management, and research for electric power facilities and other facilities and construction consulting	100.0
Miyazaki Wood Pellet Co., Ltd.	Operation of manufacturing facilities of wood pellets and procurement of forest offcut	98.3
JM Activated Coke, Inc.	Manufacturing, sales, and marketing of activated coke	90.0
J-Wind Service Co., Ltd.	Maintenance and operation of wind power plants	100.0 (100.0)
EPDC CoalTech and Marine Co., Ltd. and 6 other companies	Ocean transportation of ash and fly ash	100.0 (100.0)

Company Name	Main Businesses	Equity Stake (%)
<b>Overseas Business</b>		
JP Renewable Europe Co., Ltd.	Management of investments	100.0
J-Power Investment Netherlands B.V.	Management of investments	100.0
J-POWER Consulting (China) Co., Ltd.	Management of investments, research and development of projects	100.0
JP Generation Australia Pty. Ltd.	Management of investments, research and development of projects	100.0
J-POWER North America Holdings Co., Ltd.	Management of investments	100.0
J-POWER Holdings (Thailand) Co., Ltd.	Management of investments	100.0 (100.0)
J-POWER Generation (Thailand) Co., Ltd.	Management of investments, research and development of projects	100.0 (100.0)
JPGA Partners Pty. Ltd.	Management of investments	100.0 (100.0)
J-POWER USA Investment Co., Ltd.	Management of investments	100.0 (100.0)
J-POWER USA Development Co., Ltd.	Management of investments, research and development of projects	100.0 (100.0)
J-POWER Renewables Capital, LLC	Development business	100.0 (100.0)
J-POWER Jackson Capital, LLC	Management of investments	100.0 (100.0)
J-POWER Jackson Partners, LLC	Management of investments	100.0 (100.0)
Jackson Generation, LLC	Thermal power business	100.0 (100.0)
Gulf JP Co., Ltd.	Management of investments	60.0 (60.0)
Gulf JP UT Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP NS Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP NNK Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP CRN Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP NK2 Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP TLC Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP KP1 Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP KP2 Co., Ltd.	Thermal power business	60.0 (60.0)
Gulf JP1 Co., Ltd.	Solar power business	60.0 (60.0)
Gulf JP NLL Co., Ltd. and 13 other companies	Thermal power business	45.0 (45.0)

<b>Other Businesses</b>		
Kaihatsu Hiroyou Co., Ltd.	Production and sales of fertilizer using ash	100.0
Japan Network Engineering Co., Ltd.	Telecommunications; operation and maintenance of telecommunications facilities	100.0
Omuta Plant Service Co., Ltd.	Operation and maintenance of a waste-fueled power generation plant	100.0
J-POWER Latrobe Valley Pty. Ltd.	Participating in Australian Brown Coal Hydrogen Pilot Test Project	100.0
Biocoal Osaka-Hirano Co., Ltd.	Construction and operation of a sewage sludge-based fuel manufacturing facility	60.0
Green Coal Saikai Co., Ltd. and 1 other company	Operation of an ordinary waste-based fuel manufacturing facility	60.0

Notes: 1. The percentages in parentheses represent indirect holding ratios and are included in the percentages above.

2. J-POWER Generation Service Co., Ltd., J-POWER Business Service Corporation, J-POWER AUSTRALIA PTY. LTD., J-POWER Holdings (Thailand) Co., Ltd., Gulf JP Co., Ltd., J-POWER Jackson Partners, LLC, Jackson Generation, LLC, JP Renewable Europe Co., Ltd. and J-POWER Jackson Capital, LLC are specified subsidiaries.

## Major Group Companies (As of March 31, 2022)

### Affiliates Accounted for by the Equity Method

Company Name	Main Businesses	Equity Stake (%)
<b>Electric Power Business</b>		
Kashima Power Co., Ltd.	Thermal power business	50.0
Yuzawa Geothermal Power Generation Corporation	Geothermal power business	50.0
Osaki CoolGen Corporation	Large-scale demonstration trials of oxygen-blown IGCC and CO <sub>2</sub> separation and capture	50.0
Suzuyo Power Co., Ltd.	Electricity sale	49.9
TOSA POWER Inc.	Thermal power business	45.0
ENERES Co., Ltd.	Energy-related consulting business, power generation business, etc.	41.0
Hibiki Wind Energy Co., Ltd.	Offshore wind power generation surveying	40.0
Appi Geothermal Energy Corporation	Geothermal power business	15.0
and 5 other companies		
<b>Overseas Business</b>		
JM Energy Co., Ltd.	Management of investments	50.0
PT. BHIMASENA POWER INDONESIA	Thermal power business	34.0
Shaanxi Hanjiang Investment & Development Co., Ltd.	Hydroelectric power business	27.0
CBK Netherlands Holdings B.V.	Management of investments	50.0 (50.0)
J-POWER USA Generation, L.P.	Management of investments	50.0 (50.0)
Birchwood Power Partners, L.P.	Thermal power business	50.0 (50.0)
Birchwood Renewables, LLC	Development business	50.0 (50.0)
Gulf Electric Public Co., Ltd.	Management of investments	49.0 (49.0)
Gulf Power Generation Co., Ltd.	Thermal power business	49.0 (49.0)
Nong Khae Cogeneration Co., Ltd.	Thermal power business	49.0 (49.0)
Samutprakarn Cogeneration Co., Ltd.	Thermal power business	49.0 (49.0)
Gulf Cogeneration Co., Ltd.	Thermal power business	49.0 (49.0)

Company Name	Main Businesses	Equity Stake (%)
Gulf Yala Green Co., Ltd.	Thermal power business	49.0 (49.0)
EGCO Green Energy Co., Ltd.	Management of investments	26.0 (26.0)
Triton Knoll Offshore Wind Farm Ltd.	Wind power business	25.0 (25.0)
Tenaska Pennsylvania Partners, LLC	Thermal power business	25.0 (25.0)
EGCO Cogeneration Co., Ltd.	Thermal power business	20.0 (20.0)
CBK Power Co., Ltd.	Hydroelectric power business	— [100.0]
Green Country Energy, LLC	Thermal power business	— [100.0]
Pinelawn Power LLC	Thermal power business	— [100.0]
Equus Power I, L.P.	Thermal power business	— [100.0]
Edgewood Energy, LLC	Thermal power business	— [100.0]
Shoreham Energy, LLC	Thermal power business	— [100.0]
Orange Grove Energy, L.P.	Thermal power business	— [100.0]
Elwood Energy, LLC	Thermal power business	— [100.0]
Roi-Et Green Co., Ltd.	Thermal power business	— [95.0]
China Resources Power (Hezhou) Co., Ltd.	Thermal power business	— [34.0]
Tenaska Virginia Partners, L.P.	Thermal power business	— [30.0]
Tenaska Frontier Partners, Ltd.	Thermal power business	— [25.0]
and 48 other companies		

Note: The percentages in parentheses represent indirect holding ratios and are included in the percentages above. Those shown in brackets are the ratios held by closely related parties or parties in agreement and excluded from the percentages above.

# J-POWER Group Facilities

## Power Generation Facilities in Operation<sup>1</sup> (As of March 31, 2022) 1. Power generation facilities of the Electric Power Business segment and Overseas Business segment.

<b>Domestic, Overseas Total</b>	Generation Capacity <b>42,251MW</b>	Owned Capacity <b>24,807MW</b>
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<b>Domestic Total (95 bases)</b>	Generation Capacity <b>18,863MW</b>	Owned Capacity <b>18,284MW</b>
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Type	Power Plants	Location (Prefecture)	River System	Start of Operation (Year)	Output Capacity (MW)
Hydroelectric	Horoka	Hokkaido	Tokachigawa	1965	10
	Nukabira	Hokkaido	Tokachigawa	1956	44
	Meto No. 1	Hokkaido	Tokachigawa	1958	27
	Meto No. 2	Hokkaido	Tokachigawa	1958	28
	Ashoro	Hokkaido	Tokachigawa	1955	40
	Honbetsu	Hokkaido	Tokachigawa	1962	25
	Kumaushi	Hokkaido	Tokachigawa	1987	15
	Satsunaigawa	Hokkaido	Tokachigawa	1997	8
	Kuttari	Hokkaido	Tokachigawa	2015	0.5
	Kumaoi	Hokkaido	Ishikarigawa	1957	5
	Towa	Iwate	Kitagamigawa	1954	27
	Isawa No. 1	Iwate	Kitagamigawa	2014	14
	Shimogo (Pumped storage plant)	Fukushima	Aganogawa	1988	1,000
	Otsumata	Fukushima	Aganogawa	1968	38
	Okutadami	Fukushima	Aganogawa	1960	560
	Okutadami (Ecological Flow)	Fukushima	Aganogawa	2003	3
	Otori	Fukushima	Aganogawa	1963	182
	Tagokura	Fukushima	Aganogawa	1959	400
	Tadami	Fukushima	Aganogawa	1989	65
	Taki	Fukushima	Aganogawa	1961	92
	Kurotani	Fukushima	Aganogawa	1994	20
	Kuromatagawa No. 1	Niigata	Shinanogawa	1958	62
	Kuromatagawa No. 2	Niigata	Shinanogawa	1964	17
	Suezawa	Niigata	Shinanogawa	1958	2
	Aburumagawa	Niigata	Shinanogawa	1985	5
	Okukiyotsu (Pumped storage plant)	Niigata	Shinanogawa	1978	1,000
	Okukiyotsu No. 2 (Pumped storage plant)	Niigata	Shinanogawa	1996	600
	Numappara (Pumped storage plant)	Tochigi	Nakagawa	1973	675

Type	Power Plants	Location (Prefecture)	River System	Start of Operation (Year)	Output Capacity (MW)
	Hayakido	Nagano	Tenryugawa	1985	11
	Misakubo	Shizuoka	Tenryugawa	1969	50
	Shintoyone (Pumped storage plant)	Aichi	Tenryugawa	1972	1,125
	Sakuma	Shizuoka	Tenryugawa	1956	350
	Sakuma No. 2	Shizuoka	Tenryugawa	1982	32
	Akiha No. 1	Shizuoka	Tenryugawa	1958	47
	Akiha No. 2	Shizuoka	Tenryugawa	1958	35
	Akiha No. 3	Shizuoka	Tenryugawa	1991	47
	Funagira	Shizuoka	Tenryugawa	1977	32
	Miboro	Gifu	Shougawa	1961	215
	Miboro No. 2	Gifu	Shougawa	1963	59
	Ogamigo	Gifu	Shougawa	1971	20
	Nagano	Fukui	Kuzuryugawa	1968	220
	Yugami	Fukui	Kuzuryugawa	1968	54
	Konokidani	Fukui	Kuzuryugawa	2016	0.2
	Tedorigawa No. 1	Ishikawa	Tedorigawa	1979	250
	Nishiyoshino No. 1	Nara	Shingugawa	1956	33
	Nishiyoshino No. 2	Nara	Kinokawa	1955	13
	Totsugawa No. 1	Nara	Shingugawa	1960	75
	Totsugawa No. 2	Wakayama	Shingugawa	1962	58
	Owase No. 1	Mie	Shingugawa, Choushigawa	1962	40
	Owase No. 2	Mie	Choushigawa	1961	25
	Ikehara	Nara	Shingugawa	1964	350
	Nanairo	Wakayama	Shingugawa	1965	82
	Komori	Mie	Shingugawa	1965	30
	Yanase	Kochi	Naharigawa	1965	36
	Futamata	Kochi	Naharigawa	1963	72
	Nagayama	Kochi	Naharigawa	1960	37
	Sameura	Kochi	Yoshinogawa	1972	42
	Setoishi	Kumamoto	Kumagawa	1958	20
	Sendaigawa No. 1	Kagoshima	Sendaigawa	1965	120
	Sendaigawa No. 2	Kagoshima	Sendaigawa	1964	15
<b>Total (Domestic Hydroelectric, 60 plants)</b>					<b>8,560</b>

## J-POWER Group Facilities

### Power Generation Facilities in Operation (As of March 31, 2022)

Type	Power Plants	Location (Prefecture)	Start of Operation (Year)	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)
Wind Power	Setana Seaside	Hokkaido	2005	12	100	12
	Setana-Osato	Hokkaido	2019	50	100	50
	Kaminokuni Wind Farm	Hokkaido	2014	28	100	28
	Ohma Wind Farm	Aomori	2016	20	100	20
	Green Power Kuzumaki	Iwate	2003	21	100	21
	Kuzumaki No. 2	Iwate	2020	45	100	45
	Nikaho No. 2	Akita	2019	41	100	41
	Yurihonjo Bayside	Akita	2017	16	100	16
	Koriyama-Nunobiki Kogen	Fukushima	2007	66	100	66
	Hiyama Kogen	Fukushima	2011	28	100	28
	Tokyo Bayside	Tokyo	2003	2	100	2
	Irozaki	Shizuoka	2010	34	100	34
	Tahara Bayside	Aichi	2005	22	100	22
	Tahara	Aichi	2004	2	100	2
	Awara-Kitagata	Fukui	2011	20	100	20
	Yokihinosato Wind Park	Yamaguchi	2003	5	100	5
	Minami Ehime	Ehime	2016	29	100	29
	Nagasaki-Shikamachi Wind Farm	Nagasaki	2005	15	70	11
	Aso-Nishihara Wind Farm	Kumamoto	2005	18	100	18
	Aso-Oguni Wind Farm	Kumamoto	2007	9	100	9
	Minami Osumi	Kagoshima	2004	25	100	25
Total (Domestic Wind Power, 21 farms)				505		500
Geothermal	Wasabizawa	Akita	2019	46	50	23
Total (Domestic Geothermal, 1 plant)				46		23

Type	Power Plants	Location (Prefecture)	Start of Operation (Year)	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)	
Coal-fired	Isogo	Kanagawa	New No. 1	2002	600	100	600
			New No. 2	2009	600	100	600
	Takasago	Hyogo	No. 1	1968	250	100	250
			No. 2	1969	250	100	250
	Takehara	Hiroshima	New No. 1	2020	600	100	600
			No. 3	1983	700	100	700
	Tachibanawan	Tokushima	No. 1	2000	1,050	100	1,050
			No. 2	2000	1,050	100	1,050
	Matsushima	Nagasaki	No. 1	1981	500	100	500
			No. 2	1981	500	100	500
	Matsuura	Nagasaki	No. 1	1990	1,000	100	1,000
			No. 2	1997	1,000	100	1,000
	Ishikawa Coal	Okinawa	No. 1	1986	156	100	156
			No. 2	1987	156	100	156
Gas-fired (CCGT)	Ichihara <sup>1</sup>	Chiba	2004	108	100	108	
Thermal (J-POWER): 8 power plants				8,520		8,520	
Gas-fired (CCGT)	Mihama Seaside Power Shinminato <sup>1</sup>	Chiba		105	100	105	
Coal-fired	Itoigawa <sup>2</sup>	Niigata		149	64	95	
	Tosa	Kochi		167	45	75	
	Kashima	Ibaraki		645	50	323	
	Thermal (Subsidiaries): 4 power plants			1,066		598	
Demonstration tests facility	Osaki CoolGen	Hiroshima		166	50	83	
Total (Domestic Thermal): 12 power plants, 1 test facility				9,751		9,200	

1. Ownership of the Ichihara Power Plant and Mihama Seaside Power Shinko Power Plant was transferred on June 30

2. Ownership of Itoigawa Power, Inc. was transferred on August 1



## J-POWER Group Facilities

### Power Generation Facilities in Operation (As of March 31, 2022)

Overseas Total (33 projects)		Generation Capacity 23,388MW		Owned Capacity 6,523MW			
Countries	Type	Projects	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)	Power Purchasers	Validity of Purchase Agreement
Thailand	Gas-fired (CCGT)	7 SPP <sup>1</sup>	790	—	456	EGAT/Companies in the industrial park	Valid to 2038
		KP1	110	60	66		
		KP2	110	60	66		
		TLC	110	60	66		
		NNK	110	60	66		
		NLL	120	45	54		
		CRN	110	60	66		
		NK2	120	60	72		
	Gas-fired (CCGT)	Nong Seang	1,600	60	960	EGAT	Valid to 2039
	Gas-fired (CCGT)	U-Thai	1,600	60	960	EGAT	Valid to 2040
	Solar	Rooftop solar	0.8	60	1	Company in the industrial park	—
	Total (Consolidated)		3,991		2,376		
	Biomass (Chaff)	Roi-Et	9	25	2	EGAT	Valid to 2024
	Gas-fired (CCGT)	Rayong	112	20	22	EGAT/Companies in the industrial park	Valid to 2024
Biomass (Rubber Wood Waste)	Yala	20	49	10	EGAT	Valid to 2031	
Gas-fired (CCGT)	Kaeng Khoi 2	1,468	49	719	EGAT	Valid to 2033	
Total (Non-consolidated)		1,610		754			
Thailand (Total, 14 projects)			5,600		3,130		

Countries	Type	Projects	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)	Power Purchasers	Validity of Purchase Agreement
The United States	Gas-fired (CCGT)	Tenaska Frontier	830	31	257	ERCOT market and MISO market	—
	Gas-fired (SCGT) <sup>2</sup>	Elwood Energy	1,350	50	675	PJM market	—
	Gas-fired (CCGT)	Green Country	795	50	398	SPP market	—
	Gas-fired (CCGT)	Pinelawn	80	50	40	Long Island Power Authority	Valid to 2025
	Gas-fired (SCGT)	Equus	48	50	24	NYISO market	—
	Gas-fired (CCGT)	Fluvanna	885	15	133	Shell Energy North America	Valid to 2024
	Gas-fired (SCGT)	Edgewood	88	50	44	Long Island Power Authority	Valid to 2023
	Jet Fuel (Simple Cycle)	Shoreham	90	50	45	Long Island Power Authority	Valid to 2023
	Gas-fired (SCGT)	Orange Grove	96	50	48	San Diego Gas & Electric	Valid to 2035
	Gas-fired (CCGT)	Westmoreland	940	25	235	PJM market	—
<b>The United States (Total, 10 projects)</b>			<b>5,202</b>		<b>1,899</b>		
China	Hydroelectric	Hanjiang (Xihe, Shuhe)	450	27	122	Shaanxi Electric Power Company	Renewed every year <sup>4</sup>
	Coal-fired, Wind Power, Solar,	Gemeng <sup>3</sup>	9,218	7	645	Shanxi Province Power Corporation	—
	Coal-fired	Hezhou	2,090	17	355	Guanxi Power Grid Co.	Renewed every year <sup>4</sup>
<b>China (Total, 4 projects)</b>			<b>11,758</b>		<b>1,122</b>		
Philippines	Hydroelectric	CBK (3 projects)	728	50	364	National Power Corporation	Valid to 2026
Australia	Solar	Kidston Stage 1	50	7.7	4	NEM market	—
	Solar	Jemalong Solar	50	7.7	4	NEM market	—
<b>Other countries/region (5 projects)</b>			<b>828</b>		<b>372</b>		

1. The 7 SPPs project, which commenced operation in 2013.

2. SCGT (simple cycle gas turbine): A generating system using only a gas turbine.

3. Gemeng International Energy Co., Ltd., is an electric power company that owns 16 power generation companies.

4. Although power purchase agreements are renewed every year, J-POWER concludes memoranda of understanding regarding power grid connection and management with province-level transmission and distribution companies to, in principle, continuously purchase power for the duration of a given facility's operation.

### Coal Mine Data (As of March 31, 2022)

Coal Mine	Location	Outport	2021 Sales Volume (million tons)	Vested Interest (%)	Coal Production Start
Clermont	Queensland, Australia	Dalrymple Bay	10.38	22.2	2010
Narrabri	New South Wales, Australia	Newcastle Port	3.38	7.5	2012
Maules Creek	New South Wales, Australia	Newcastle Port	9.37	10	2014

## J-POWER Group Facilities

### Major Transmission and Transformation Facilities<sup>1</sup> (As of March 31, 2022)

#### Transmission Facilities

Major Transmission Lines	Beginning of Operation (Year)	Location (Prefecture)	Distance (km)	Voltage (kV)
Tokachi Trunk Line	1956	Hokkaido	214.4	187
Hokkaido-Honshu HVDC Interconnection Line	1979	Hokkaido – Aomori	167.4	DC±250
Tadami Trunk Line	1959	Fukushima – Tokyo metropolitan area	216.3	275-500
Sakuma East Trunk Line	1956	Shizuoka – Tokyo metropolitan area	197.2	275
Sakuma West Trunk Line	1956	Shizuoka – Aichi	107.7	275
Miboro Trunk Line	1960	Gifu – Aichi	108.6	275
Honshu-Shikoku Interconnection Line	1994	Kagawa – Okayama	127.0	500
Kii Channel HVDC Interconnection Line	2000	Tokushima – Wakayama	99.8	DC±250
Nahari Trunk Line	1960	Kochi – Ehime	120.0	187
Kanmon Interconnection Line	1980	Fukuoka – Yamaguchi	64.2	500

1. Transmission and transformation facilities are held by J-POWER Transmission Network Co., Ltd., a wholly owned subsidiary of J-POWER.

#### Substations

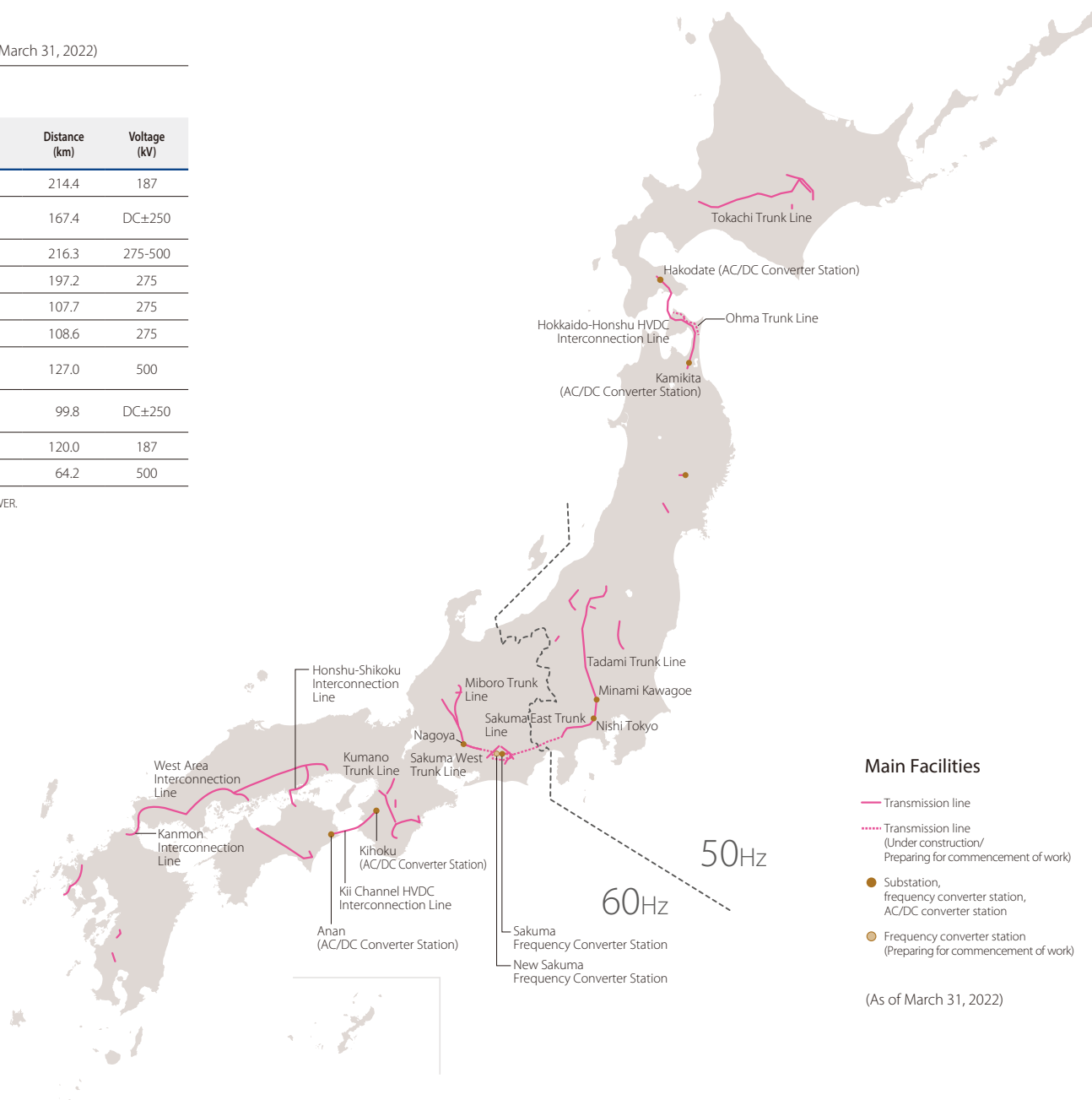
Substations	Beginning of Operation (Year)	Location (Prefecture)	Output (kVA)
Isawa	2012	Oshu City, Iwate	9,000
Minami Kawagoe	1959	Kawagoe City, Saitama	1,542,000
Nishi Tokyo	1956	Machida City, Tokyo	1,350,000
Nagoya	1956	Kasugai City, Aichi	1,400,000

#### Frequency Converter Station

Frequency Converter Station	Beginning of Operation (Year)	Location (Prefecture)	Output (MW)
Sakuma	1965	Tenryu, Hamamatsu City, Shizuoka	300

#### AC/DC Converter Stations

AC/DC Converter Stations	Beginning of Operation (Year)	Location (Prefecture)	Output (MW)
Hakodate	1979	Nanae Town, Kamada, Hokkaido	600
Kamikita	1979	Tohoku Town, Kamikita, Aomori	600
Kihoku	2000	Katsuragi Town, Ito, Wakayama	1,400
Anan	2000	Anan City, Tokushima	1,400



#### Main Facilities

- Transmission line
- ..... Transmission line (Under construction/Preparing for commencement of work)
- Substation, frequency converter station, AC/DC converter station
- Frequency converter station (Preparing for commencement of work)

(As of March 31, 2022)

## J-POWER Group Facilities

### Major Projects under Construction or Development

#### Domestic

(As of March 31, 2022)

Type	Projects	Location (Prefecture)	Status	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)	Start of Operation
<b>Nuclear</b>	Ohma	Aomori	Under construction	1,383	100	1,383	To be determined
<b>Hydroelectric</b>	Shin-Katsurazawa	Hokkaido	Under construction	16	100	16	2022 <sup>1</sup>
	Kumaoi	Hokkaido	Under construction	4 ▶ 5	100	4 ▶ 5	2022 <sup>1</sup>
	Ashoro (Repowering)	Hokkaido	Under construction	40	100	40	Construction completion in FY2022
	Ogamigou (Repowering)	Gifu	Preparing for repowering	20 ▶ 21	100	20 ▶ 21	FY2023
	Nagayama (Repowering)	Kochi	Preparing for repowering	37 ▶ 40	100	37 ▶ 40	FY2025
	Onabara	Fukui	Preparing for construction	1	100	1	FY2024
<b>Wind Onshore wind</b>	Kaminokuni No. 2 <sup>2</sup>	Hokkaido	Under construction	42	100	42	FY2023
	Minami Ehime No. 2	Ehime	Under construction	34	100	34	FY2025
	Esashi	Hokkaido	Under construction	21	70	15	FY2022
	Hachinosawa	Hokkaido	Preparing for construction	21	70	15	FY2023
	Tomamae (Replacement)	Hokkaido	Under construction	31	100	31	FY2022
	New Saraki Tomanai (Replacement)	Hokkaido	Under construction	15	100	15	FY2023
	New Shimamaki (Replacement)	Hokkaido	Under construction	4	100	4	FY2022
	New Nikaho (Replacement)	Akita	Under construction	25	100	25	FY2024
	Hibikinada Offshore	Fukuoka	Preparing for construction	Max 220	40	88	FY2025
	Appi	Iwate	Under construction	15	15	2	FY2024
<b>Geothermal</b>	Onikobe (Replacement)	Miyagi	Under construction	15	100	15	FY2023
<b>Solar</b>	Kitakyushu Hibikinada	Fukuoka	Under planning	30	100	30	FY2024
	Himeji Oshio	Hyogo	Under planning	2	100	2	FY2024

#### Under Environmental Impact Assessment<sup>3</sup>

Type	Projects	Location (Prefecture)
<b>Wind Onshore wind</b>	Wajima	Ishikawa
	Naka-Noto	Ishikawa
	Fukui Ono Ikeda	Fukui
	Kichu	Wakayama
	Watarai	Mie
	Hiroshima-Nishi	Hiroshima
	Reihoku Kunimiyama	Kochi

Type	Projects	Location (Prefecture)
	Seiyo Yusuvara	Ehime
	Youra	Oita
	Hisatsu	Kumamoto/ Kagoshima
	Kita-Kagoshima	Kagoshima
	New Tahara Bayside (Replacement)	Aichi

#### Undergoing development research

Type	Projects	Location	Output Capacity (MW)
<b>Offshore wind</b>	Saikai Offshore <sup>4</sup>	Nagasaki	Max Approx. 1,850
	Hiyama-area Offshore	Hokkaido	
	Awara Offshore <sup>4</sup>	Fukui	
	Offshore Yusa <sup>4</sup>	Yamagata	

1. Shin-Katsurazawa and Kumaoi started operation in May 2022 and April 2022, respectively.

2. Data for phase 1 construction of Kaminokuni No.2. Planned maximum capacity of 120MW.

3. The maximum output is approximately 800MW in total at the planned sites undergoing environmental impact assessment procedures.

4. Conducted jointly with other companies.

#### Overseas

(As of March 31, 2022)

Type	Projects	Location	Status	Output Capacity (MW)	Ownership (%)	Owned Capacity (MW)	Start of Operation
<b>Coal-fired</b>	Central Java	Indonesia	Under development	2,000	34	680	Late 2022
<b>Offshore wind</b>	Triton Knoll	The United Kingdom	Under development	857	25	214	2022 <sup>5</sup>
<b>Gas-fired (CCGT)</b>	Jackson	The United States	Under development	1,200	100	1,200	2022 <sup>6</sup>
<b>Pumped storage</b>	K2-Hydro	Australia	Under development	250	7.7	19	2024
<b>Solar</b>	Refugio	The United States	Under construction	400	25	100	After 2023
	Birchwood	The United States	Under construction	50	50	25	—
	Rooftop solar (2)	Thailand	Under construction	total 1	60	1	After 2022
<b>Storage</b>	Bouldercombe	Australia	Under development	50	7.7	39	2023
	Birchwood	The United States	Under construction	190	50	95	—
<b>Onshore wind</b>	Kidston Stage-3 Wind	Australia	Under construction	150	53.9 <sup>7</sup>	81	2025

5. Triton Knoll started operation in April 2022.

6. Jackson started operation in May 2022.

7. The total of J-POWER Group 50% equity and 7.7% investment in Genex.

### Major Transmission/Transformation Development Plans<sup>7</sup>

Project	Status	Capacity	Start of Operation
Construction of the New Sakuma Frequency Converter Station and replacement and expansion of related transmission lines	Preparing to start construction	New Sakuma Frequency Converter Station: Sakuma East Trunk Line: Sakuma West Trunk Line: 300 MW Approx. 125 km Approx. 14 km	Expansion scheduled for completion at the end of FY2027

7. The power transmission and transformation business is handled by J-POWER Transmission Network Co., Ltd., a wholly owned subsidiary of J-POWER.

# Attestation of Validity

## On the issuance of the J-POWER Group Integrated Report 2022



Executive Vice President

**Makoto Honda**

To deepen understanding of our initiatives aimed at the creation of medium- to long-term value, in 2019 J-POWER began issuing an Integrated Report that we use as a basis for dialogues with stakeholders.

In this year's Integrated Report, the fourth one since we started releasing them, we set targets for key performance indicators (KPI) related to materiality decided upon last year. Important issues and targets (KPI) related to achieving the Company's vision; J-POWER "BLUE MISSION 2050," a concrete effort to achieve KPI targets; and targets in the medium-term management plan are given as one type of link.

Turning to sustainability-related efforts, as a first step toward building a human rights risk management system and strengthening related efforts, including that for the supply chain, we formulated the J-POWER Group Basic Policy on Human Rights and carefully examined disclosure details in conjunction with new guidance regarding disclosure in line with TCFD recommendations. This time, we are providing an explanation of changes to the corporate governance system as we transition to a company with an Audit & Supervisory Committee.

This report was created in partnership with related departments and the Corporate Planning & Administration Department, which primarily handles editing. As the person in charge of ESG oversight and the Corporate Planning & Administration Department, which is responsible for preparing the report, I attest that the process for creating the report is appropriate and the content is accurate.

I hope that stakeholders find this report helpful in gaining a deeper understanding of the Group. We will continue to work to further expand the content of the report and make it useful for dialogue with stakeholders.

# Corporate Profile/Stock Information (As of March 31, 2022)

<b>Corporate Name</b>	Electric Power Development Co., Ltd.
<b>Communication Name</b>	J-POWER
<b>Date of Establishment</b>	Sept. 16, 1952
<b>Headquarters</b>	15-1, Ginza 6-chome, Chuo-ku, Tokyo 104-8165, Japan
<b>Paid-in Capital</b>	¥180,502,169,192
<b>Number of Shares Authorized</b>	660,000,000
<b>Number of Shares Issued</b>	183,051,100
<b>Number of Shareholders</b>	82,812
<b>Stock Exchange Listing</b>	Tokyo Stock Exchange
<b>Independent Public Accountants</b>	Ernst & Young ShinNihon LLC
<b>Transfer Agent</b>	Sumitomo Mitsui Trust Bank, Limited

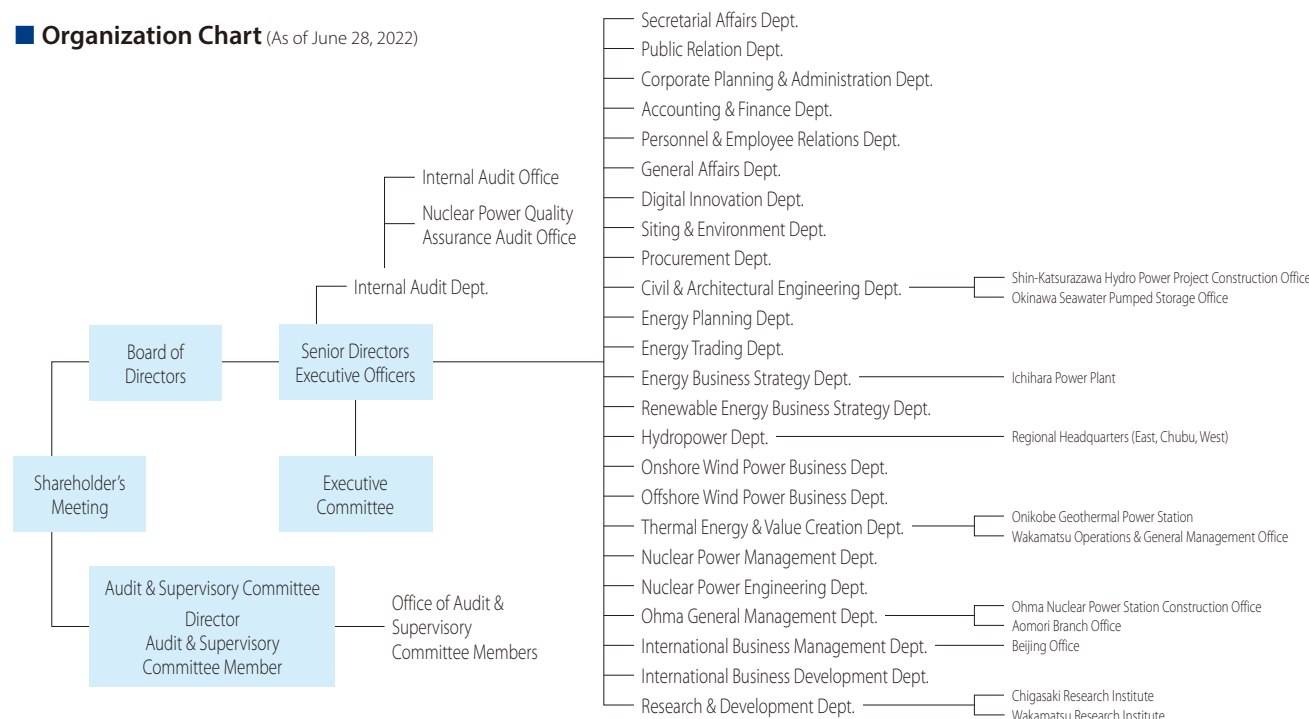
## Major Offices

- Head Office: 15-1, Ginza 6-chome, Chuo-ku, Tokyo
- East Regional Headquarters: Kawagoe-shi, Saitama
- Chubu Regional Headquarters: Kasugai-shi, Aichi
- West Regional Headquarters: Osaka-shi, Osaka

## Major Overseas Subsidiaries

- J-POWER USA Development Co., Ltd.
- J-POWER Generation (Thailand) Co., Ltd.
- J-POWER Consulting (China) Co., Ltd.

## ■ Organization Chart (As of June 28, 2022)



## ■ Major Shareholders (Top 10/As of March 31, 2022)

Name or Designation	Number of Shares Held (Thousands of Shares)	Percentage of Total Shares Issued (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	26,404	14.42
Nippon Life Insurance Company	9,152	5.00
Custody Bank of Japan, Ltd. (Trust Account)	8,471	4.63
Mizuho Bank, Ltd.	5,155	2.82
J-POWER Employees Shareholding Association	4,771	2.61
JP MORGAN CHASE BANK 385635	3,680	2.01
Sumitomo Mitsui Banking Corporation	3,436	1.88
GOLDMAN SACHS INTERNATIONAL	3,151	1.72
Fukoku Mutual Life Insurance Company	3,029	1.65
MUFG Bank, Ltd.	2,923	1.60

## ■ Composition of Shareholders (As of March 31, 2022)

\*"Individuals and Others" includes 2,971 shares of treasury stock.

